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INDEX TO VOLUME III.

	PAGE
Aconite, by Starling Loving, M.D.....	223, 342
American Medical College Association.....	234
Anemia, by J. C. Peters, M.D.....	236
Atmospheric Germs in Wounds, Larzelere.....	146
Atmospheric Germs, Influence of in Wounds, McElroy.....	151
Blepharospasm, by H. G. Cornell.....	495
Case of Internal Strangulated Hernia.....	499
Clinical Notes in Obstetrics and Gynæcology.....	201, 321, 395
Cold and Heat in Fevers.....	186
Compressions of the Spinal Cord, Vulpian.....	507
Correspondence.....	178, 294, 377, 470, 558, 570
Demerits of Ranke's Thymol Dressing for Wounds.....	263
Diseases of the Nervous System, Lectures on, by A. Vulpian.....	449, 507
Dysmenorrhœa.....	463
Editorial.....	86, 195
Examination of the Body of John W. Brock.....	487
Hog Cholera, by N. S. Townshend, M.D.....	1
Hydrocele, Clinical Lectures on.....	19
Hydrophobia, by Dr. Ferreol, of Paris.....	47
Hysteria.....	187
Insanity, Lectures on.....	266, 352, 428, 520
Intra-Laryngeal Growths.....	299
Ischæmia of the Retina, T. R. Pooley, M.D.....	313
Lectures.....	19, 163, 266, 352, 428, 520
Malpractice Suits in Maine.....	555
Medical Expert, by W. J. Conklin, M.D.....	127
Memoir of Dr. S. D. Turney.....	105
Michigan State Board of Health.....	390
Metallo Therapy.....	286
Mur. Tinct. Ferri in Scarlet Fever.....	159
Nerve Stretching, by Isaac Ott, M.D.....	8
Ohio State Medical Society.....	283
Opium Habit.....	467
Orbital Tumor, by T. R. Pooley, M.D.....	256
Ovariectomy, Case of.....	43
Paralysis, Temporary of Right Side of Face.....	42
Prophylaxis of Scarlet Fever.....	156

Index.

	PAGE
Puerperal Insanity	321
Pulmonary Hemorrhage	503
Rectum, Disease of the	39
Reviews.....	88, 196, 296, 384, 479, 573
Squire's Multiple Scarifier.....	190
Strictures of the Cervical Canal	465
Sun and Air Baths.....	551
Thoracentesis	12
Translations	47, 449, 507
Tumor of the Male Breast	163
Venereal Ulcer.....	247
Vomiting in Pregnancy.....	187
Yellow Fever	369

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ORIGINAL COMMUNICATIONS.

ART. I.—*A Contribution to the Study of Hog Cholera.* By N. S. TOWNSEND, M.D., Professor of Agriculture in the Ohio Agricultural and Mechanical College. Read before the Columbus Academy of Medicine, November 23, 1877.

Mr. President: An invitation from the Columbus Academy of Medicine to read a paper on the disease familiarly known as Hog Cholera, should be accepted as proof that physicians of this city are not indifferent to the malady which so seriously affects the prosperity of the surrounding country. It also affords evidence that physicians are not wanting in a humane desire to alleviate the sufferings of the creatures we subordinate to our pleasure or profit. It may be presumed that the members of the Academy are aware of the resemblances between some animal diseases and those which affect mankind; and of the facilities which animals afford for the study of such diseases. The communicability of some diseases from animals to men is equally well-known to you, as well as the influence which the diseases of milk and flesh-producing animals may have upon the health of the people. Permit me to add, that in a country where well-educated veterinarians are very scarce, there would seem to be a necessity that physicians should care not only for the families of their patrons, but also for their four-footed dependants.

I regret that what I have to offer this evening is only "A Contribution to the Study of Hog Cholera," instead of an exhaustive treatment of the subject. My opportunities for investigation have been limited, and have occupied only such time as could be spared from the pressure of other duties. I have observed somewhat hastily several affected herds of swine, and examined the bodies of some fifty, supposed to have been subjects of this disease, several of which were killed in order to determine what structural changes were discoverable in the earlier stages. I have not had sufficient opportunity to test the comparative efficacy of different modes of treatment.

History.—So far as I am informed, a serious and often fatal disease of swine, known as Hog Cholera, has been more or less prevalent in Ohio for twenty years. Whether this disease is identical with any disease of swine of former periods or of other countries, is a question to which it may be presumed that sufficient attention has not been given, inasmuch as widely diverse opinions are entertained. Of late years the disease has presented itself in almost every State of the Union; but especially in States West and South. The report of the Department of Agriculture for 1876 shows a loss in the State of Missouri of 30 per cent. of all the swine in the State; in the States of Illinois and Kentucky the loss was more than 20 per cent.; in Indiana 18 per cent.; in Georgia 10 per cent., and in Ohio 7 per cent. The aggregate loss of the whole country was twenty millions of dollars.

Symptoms.—The first stage of the disease is congestive; the animal crawls under the litter, or huddles close to his companions, refuses solid food and appears sluggish; this stage may last a few hours or it may continue for a day or two. If the animal does not die apoplectic in the congestive state, reaction follows; then there is thirst, feverishness, and redness of the skin, especially where the hairy covering is least abundant. In some animals this redness is diffused, but

more frequently it appears in spots, from which the cuticle is sometimes raised in small blisters; the conjunctiva is reddened and the mouth is dry. The pulse is from 100 to 120, and the temperature from 104° to 106° ; and in one instance I found it as high as 111° . Soon the abdomen becomes tumid and tender, the animal expresses great pain when compelled to move, and prefers to lie prone upon the belly. There is often great difficulty of breathing, which is more or less spasmodic, and attended with severe cough; not unfrequently there is hemorrhage from the nostrils and swelling of the parotid glands. Through the febrile, or acute inflammatory stage, there is constipation, which is afterwards followed by diarrhœa; at first the evacuations may be destitute of bile, then billious, and very soon dark colored, or blood-stained and very foetid. Finally, locomotion becomes difficult, unsteady, and perhaps spasmodic, or the posterior extremities are entirely paralyzed. Death may occur within a few hours and during the congestive stage as already stated; it may occur in a few days from the effects of inflammation, or in one or two weeks from exhaustion, from peritonitis, or from effusion.

Post mortem.—On examination after death, the cavity of the abdomen is often found to contain a few ounces of serum, and sometimes fibrinous exudations. The liver is not materially changed in size or texture, but often has a yellowish or ashy color; occasionally it was found greatly engorged. The spleen was enlarged in nearly half the cases examined, sometimes to a great extent, and so disorganized that when the capsule was ruptured the grumous contents would escape. This disorganized condition of the spleen, as might be expected, was greatest when the blood showed most change.

The stomach often contained undigested food, the mucous membrane was usually congested, but rarely showed as decided evidence of inflammation as other portions of the ali-

mentary canal. The small intestines, on their external surface presented patches of deep discoloration, occasionally they would be glued together by lymph exudations. The mucous lining showed general congestion, and inflammation in patches; sometimes tumefaction and exudation would be almost confined to the aggregate and solitary glands, while in some cases where covered by dark colored crusts or where these had sloughed off, patches of ulceration were seen. Frequently, however, the inflammation and ulceration affected glandular and other portions indifferently; or the whole inner surface of the bowel would be inflamed for several inches in extent. In the large intestines the mischief was still more apparent, the cæcum often contained a multitude of inflamed and elevated spots, or in their place ulcerations as large as the impressions made by the ends of one's fingers on a dusty table, and as close as the fingers held together could make them. The colon usually presented ulcerations similar to those of the cæcum; its contents were small masses of hardened feces dark colored or blood stained; and not unfrequently dark fluid blood in considerable quantity. Sometimes portions of the colon were almost gangrenous, in a few cases the intestine had been perforated by ulceration and peritonitis had resulted. The mesenteric glands were almost always enlarged; the kidneys were congested, the bladder contained healthy looking urine, or it was tinged with bile or blood.

The lungs were always congested and often inflamed, or impervious to air from serous infiltrations; the air-passages were filled with frothy mucous, the trachea, and larynx were sometimes found in a state bordering upon gangrene. In a few instances, where the cough had been an unusually marked symptom, the smaller air-passages were crowded with nematoid or thread-like worms, the *strongylus paradoxus*, these cases were so few, that the presence of the lung-worms can only be regarded as an accidental complication.

Effusion within the pleura, or pericardium, was sometimes seen; the blood in the heart cavities was clotted, but the clots were soft and in general the blood elsewhere was fluid. On examination of the blood with the microscope, the blood-globules appeared shrunken and their margins irregular. In the blood drawn from some animals that were killed, bacteria were seen with a power of from eighty to one hundred diameters. The *Bacilla anthracis* which is said to be pathognomonic of anthrax fever was looked for but not found. The brain and spinal marrow were repeatedly examined but without disclosing any marked lesion.

Pathology.—That this disease corresponds in no degree with Asiatic cholera of the human subject, is evident on slight examination. In Hog Cholera, constipation is much more common at the outset than diarrhœa, and afterwards when diarrhœa is present, the evacuations are unlike the characteristic discharges of Asiatic cholera. That the disease is an idiopathic fever of typhoid type, substantially like typhoid fever of the human subject, would seem to be proved by the congestion, inflammation and ulceration so generally found in the intestinal canal, by the frequency of hemorrhages from the bowels, and the frequent enlargement of the mesenteric glands and spleen; also by the petecial eruption over the surface, and from its greater tendency to attack young animals. On the other hand, Hog Cholera resembles what is known in Europe as anthrax fever, the symptoms in the living animal being almost identical, and the post mortem appearances not greatly dissimilar. Hog Cholera differs from what are styled anthracoid diseases by its much less malignity; and, although in my opinion it is contagious so far as to be communicated in some way from diseased to healthy swine, it does not appear to be transmissible to other species of animals, nor to man, while the anthrax fever of Europe passes readily from one kind of stock to another and is often fatally

communicated to mankind. The blood of animals suffering from anthrax fever, it is said, always contains the *Bacillus anthracis*. So far as my examinations have gone or my information extends, the presence of *Bacillus* has not been demonstrated in Hog Cholera. I should add, however, that many European veterinarians regard what is styled anthrax fever of swine as nothing more nor less than typhoid fever. By some persons Hog Cholera is regarded as typhus, rather than typhoid fever; but the frequency of intestinal lesions, and severe suffering in Hog Cholera, are adverse to such a conclusion.

Cause.—First, contagion. It seems to be established that this disease has been communicated to healthy swine by bringing them in contact with the affected, or by confining them in cars, pens, or yards, that diseased animals have recently occupied. It appears, also, that the contagion may, in some way, be conveyed for the distance of half a mile or more; also, that animals kept in the most cleanly and thrifty condition are not proof against the contagion. If the disease is typhoid fever, we should expect to find that contaminated water is a principal medium through which the disease germs pass from one animal to another. How far exemption from attack may be secured, when the food and drink are free from all possible contamination, has not, so far as I know, been determined. Second. It seems, also, to be established that healthy hogs, if subjected to hard driving for considerable distances in hot weather, or if crowded together in large numbers, may develop the disease *de novo*; and, possibly, other conditions and circumstances not yet understood, may tend to a similar result.

Treatment. With this malady it is especially true that prevention is better than cure; the attempt to medicate a case of Hog Cholera, when, by so doing, there might be danger of exposing other animals, is the reverse of economy. When it is certain that an animal has this disease, it should

be killed immediately and buried, and the whole premises thoroughly disinfected. For this purpose, all litter and rubbish should be burned, and the pens, or styes, fumigated with burning sulphur. Hogs that have been in contact with sick ones may be expected to show symptoms of the disease, after thirteen or fourteen days, at furthest, if the weather be cold; if the weather should be very hot, the period of incubation may be shortened to three or four days. During the period of incubation, sulphur should daily be given with the food, or the hyposulphite of soda may be used instead. This is a cheap drug, and a sufficient quantity will be taken, without objection, if dissolved in the drink. Some farmers think they have kept off the disease, after exposure, by acidulating all the food slightly with sulphuric acid; others believe that the sulphate of iron is equally effectual. The carbolic, cresylic, and salicylic acids may prove better disinfectants than those already named; or, possibly, change of quarters may be more beneficial than any plan of medication. If an attack of the disease cannot be prevented, and loss of appetite, with nausea, and constipation, are noticed, then laxatives are clearly indicated, and sulphur enough to act may easily be given with the food or drink, or castor oil, with spirits of turpentine, may be administered to an animal that is conveniently small, and repeated, from time to time, so long as enteric inflammation continues. Corn, boiled in weak lye from wood ashes, is relied upon by some, while others place soft soap where the sick animals will take it, instinctively, to relieve the acidity of the stomach and bowels, from which all seem to suffer. After the disease has run its course, and left the animal without appetite, and with an exhausting and foetid diarrhœa, the sulphate of iron answers a good purpose, combining tonic with astringent effects. How far such treatment would prove effectual, if intelligently followed, I am not prepared to say. I have several times been thanked for

suggesting such a course by owners who believed it had been of great service.

There are many patent remedies for this disease before the public; they are all published in the Official Gazette of the Patent Office. Some of these remedies contain valuable articles, though not unfrequently the drugs combined are incompatible. A receipt to prevent, and to cure, and to be given in all stages and conditions, you would think more likely to do harm than good. Certainly you would have little faith in any specific that might be offered for the prevention and cure of typhoid fever of the human subject, although you would expect to see a large majority of your patients thus afflicted, recover under treatment properly adapted to their condition.

Mr. President, I am fully aware that the paper I have just read is very unsatisfactory; there are but few points upon which I have been able to speak with absolute certainty. My object will be attained if, in consequence of any discussion that may follow, this disease should hereafter be better understood and more successfully treated.

ART. II.—*Nerve-Stretching; its Physiological Action.* By ISAAC OTT, M. D.,
late Demonstrator of Physiology, University of Pennsylvania.

As every one knows, nerves possess elasticity, and can be stretched to a considerable extent. Harlars and Haber, in 1858, and Valentin, in 1864, have shown that the excitability of the nerve trunk became changed under the influence of powerful mechanical action. These experiments have been confirmed by Tutschek and Conrad. Dr. S. W. Mitchell discovered on frogs and mammals, that the nerve bore best a slow stretching by a weight. When the nerve was suddenly stretched, there was a loss of function. When the nerve had been stretched one-fifth, slight mechanical injuries ceased to cause reaction, but electrical irritation caused contraction, till the stretching was equal to three-

fourths of an inch in three inches. Vogt has lately published a monograph on nerve-stretching, and as it has become a method of treatment in sciatica, neuralgia, and tetanus, I thought it worth the time to study the physiological effect of stretching on a normal nerve. I shall study only the effect of strong stretching in this paper, as injuries of nerves.

Harlers has shown that weak stretching increases the irritability. The rate of conductivity was also studied in nerves greatly stretched.

My experiments were performed on frogs, and the weakest induction current that would cause muscular contraction was used to measure the excitability of the nerve. Between the testings, the frog was placed in the moist chamber.

The figures show the distance between the spirals.

Exp. 1. Frog, cerebrum ablated, tissues of posterior extremities divided, excepting the sciatics; the femorals ligated at their central extremity to prevent hemorrhage; the left sciatic stretched from eleven millimetres to twenty-five, and kept so.

Time.	R. Sciatic.	L. Sciatic.
1.45 P. M.	23.5	8.
1.48 "	20.	6.2
1.54 "	19.	3.5
2. "	19.	3.

Exp. 2. Frog, cerebrum ablated; posterior extremities divided, excepting the sciatics; femoral arteries ligated at central end; left sciatic stretched from eight millimetres to seventeen, and kept so extended.

Time.	L. Sciatic.	R. Sciatic.
2.20 P. M.	25.	36.
2.25 "	20.	23.
2.32 "	16.	32.

As will be seen by an examination of the columns of figures, the excitability of the stretched nerve diminishes rapidly. To eliminate any action on the central nervous system, it was destroyed in the next experiment.

Exp. 3. Frog, central nervous system destroyed; tissues of posterior extremities, excepting the sciatics, divided.

Time.	L. Sciatic.	R. Sciatic.
2.10 P. M.	27.	25.5
2.25 " " " " " "	Left sciatic stretched from ten millimetres to twenty-six and then allowed to recede on itself.	
2 30 "	14.5	26.3
2.37 "	13.5	27.5
3.14 "	15.	21 5
3.35 "	17.5	27.5
3.45 "	12.7	24.
4.00 "	12.2	34.

The destruction of the central nervous system did not prevent the diminution of the excitability of the stretched nerve.

All action on the central nervous system from stretching was eliminated. Now, the seat of this loss of nerve excitability, must be either in the nerve trunk, or its terminal extremity. That stretching has an effect on the extremities of a nerve is evidenced by the muscular twitchings which ensue, but that the whole cause of the reduced irritability is due to peripheral stretching of the nerve, is not probable. Further, when the nerve is irritated near the muscle, and, at a distance from it, the conductivity of the nerve between those points is lessened. I mean, here, that the transmission of nerve force has diminished rapidly. It is to be inferred that the loss of irritability is seated in the nerve trunk itself. The question arises here, How does it lessen the irritability? Does it disturb the molecules of the nerve, or is it due to the dilated and tortuous-nutrient blood-vessels of the nerve produced by stretching, causing a slowing of the rapidity of the circulation, lessened arterial tension, and, consequently, diminished metamorphosis of tissue, followed by altered function?

To show that disarrangement of the molecules causes a loss of irritability, the next experiment is given.

Exp. 4. Frog, central nervous system destroyed, tissues of posterior extremities divided, excepting the sciatics.

Time.	L. Sciatic.	R. Sciatic.
2.10 P. M.	29.5	31.4
2.15 " Fifty gramme weight on left sciatic for thirty seconds.		
2.18 "	59.	29.
2.24 "	37.	31.2
2.46 "	18.4	31.4
3.0 "	19.7	30.7
3.56 "	11.2	26.

Here pressure primarily elevated the irritability, but was succeeded by a fall, showing that displacement of the normal arrangement of the nerve-molecules will cause a fall of irritability. Certainly, where the femorals were ligated, or divided, there were no changes in the nutrient arteries to produce the decreased irritability.

That stretching lowers the rate of transmission of nerve-force, and that extra polar katelectrotonus, also, in the stretched nerve lowers still more the rapidity, I will simply state here as a preliminary communication.

ACTION ON REFLEX-ACTION.

Exp. 5. Frog, at 3.5 P.M., had his cerebrum ablated.

3.15 P.M., right foot dipped in sulphuric acid sol.

Reflex-time, 7, metronome beating one hundred beats per second.

3.17 P.M., right sciatic stretched about a centimeter.

3.18 P.M., pinching the right foot produced no reaction.

3.21 P.M., 11; 3.25, 13; 3.40, 13; 4.7, 23; 4.25, 19.

Here the conduction of sensory impressions in right leg was temporarily lost, as well as motility for pinching of the right foot produced no reaction for a short time in the left or right leg. At length, reflex action returned to the right extremity, although greatly diminished, probably due to lessened conductivity and the irritation of the nerve in the act of stretching, calling into action the spinal inhibitory centres,* which depress reflex excitability.

Exp. 6. Frog, at 2.46 P.M., had cerebrum ablated.

* Phil. Med. Times, Dec., 1877.

Time.		Reflex-time.
3.8	P.M. Right foot tested.	11
3.9	" Left sciatic stretched.	
3.10	"	11
3.16	"	13
3.20	"	14
3.38	"	13
3.47	"	16

This experiment demonstrates that stretching the left sciatic had little or no action on the reflex actions of the right foot. From this, it is inferred that stretching has no influence on the central nervous system.

The following resume expresses the conclusions at which I have arrived :

1. Nerve-stretching lowers the excitability of the nerve.
2. This lessened excitability of the nerve is due to a displacement of the nerve-molecules.
3. The seat of this disarrangement of the molecules is located in the trunk of the nerve.
4. Stretching a nerve has no influence on the central nervous system.
5. Stretching lowers the rate of transmission of nerve-force.
6. Extra polar katelectrotonus, as in normal nerve, also lowers the rapidity of transmission of nerve-force in a stretched nerve.

ART. III.—*Thoracentesis*. By J. H. POOLEY, M.D., of 'Dobbs' Ferry, N. Y. Read before the Yonkers Medical Association.

The subject I wish to bring before the association to-night is one of great interest and importance, for none of us know how soon we may be called upon to decide its merits in our own practice—paracentesis thoracis—by aspiration or incision. Perhaps no operation has, of late years, engaged the careful study and thoughtful consideration of the profession more than this. In looking over the literature of this matter, it is difficult to say with whom this treatment orig-

inated. But no one who has seen many cases of effusion into the chest, and knowing the want of success that so often follows the usual medical means used for its relief, but must have felt a strong desire to relieve his patient in some more reliable way. In some cases, this surgical procedure is the great desideratum, and, as I think, destined to be acknowledged of vast use and importance. It has been suggested at different times, by various writers, but was left apparently for Bowditch, of Boston, clearly to point out and justify as a sensible and reliable operation. In speaking of this malady, Niemeyer says: "Considering our slender ability to excite or even to hasten reabsorption of pleuritic effusions, by means of internal medication, the discovery that their evacuation by surgical means is attended by much less danger than was formerly supposed, and the frequent and early practice of such operations in cases of pleurisy with effusion, must be considered an important advance in therapeutics. It must be evident that every additional day, during which the lung is exposed to pressure, and the longer the time allowed for cells to multiply in the exudation, so much the more are the chances of complete recovery diminished, and the danger of a fatal termination increased. Regarding the precise indications for the procedure of tapping and for its various modifications, as regards the details of the operation, we refer to the handbooks of surgery." Dr. Flint, Sr., remarks on this subject: "Cases are often injudiciously treated in consequence of the attention being too much engrossed with the measures to promote absorption. These measures will do harm if continued too long or pushed too far. After a certain amount of effect has been produced, if they cease to be further effective, they should be discontinued, at least for a time; nor should they be persisted in if they fail to have any effect. Harm is produced by their injudicious employment, in proportion as they debilitate." Now the case requires tonic

remedies, nutritious alimentation, the moderate use of alcoholic stimulants, and gentle exercise out of doors. These measures are always important, and they are preëminently so, if, from associated affections, complications, or the general condition of the patient, the powers of the system are notably lowered. I have repeatedly seen a marked change for the better occur at once, followed by progressive improvement in all respects, on the discontinuance of measures having reference to the absorption of liquid, and the substitution of measures addressed to the system. Numerous quotations from different authorities might be given, of the uncertainty of diuretics and hydragogues, in the removal of the effused liquid, but I now proceed to advocate surgical interference when medicines fail to give satisfactory results. The propriety of paracentesis or thoracentesis when the accumulation of fluid is sufficient to place the patient in imminent danger, is unquestionable. But it is a question which, of late, has been much discussed, whether it be not advisable to puncture in cases in which the chest is dilated by liquid, although the patient be not in great distress or danger. It is clearly an object to get rid of the liquid, and the point to be decided is whether it be better to resort to the direct mode; that is, puncture and withdraw it, or to effect the object indirectly by purgatives, diuretics, &c. This point is to be decided, of course, after a mature consideration of the advantages and disadvantages of the operation of thoracentesis. Heretofore, this was performed only as a dernier resort, under circumstances when little was to be expected from any measure. It was deferred as long as possible, sometimes on account of doubt as to diagnosis, and, because the perforation and introduction of air was supposed to involve danger of an increase of inflammation. Objection to the operation on the score of diagnosis is now removed by our present knowledge of physical signs. Moreover, the operation has been divested of all severity, and the liability

to the introduction of air has been provided against, by the application of the suction-pump, first suggested by Dr. Morill Wyman, in 1850, and since employed in a large number of cases by Dr. Bowditch. The introduction of air is not attended by the injurious effects formerly apprehended, but it is objectionable, because the presence of air is an obstacle to the full expansion of the lung after the liquid is removed. Its introduction is prevented by the use of the pump in withdrawing the liquid. The operation is rendered trivial because, with the suction force of the pump, a small exploring trocar suffices for the puncture, which causes very little pain, and closes directly the canula is removed. Dr. Bowditch operated in this way on 75 persons in the course of twelve years. In no instance was any permanent injury referable to the operation. It was in some cases repeated several times during the progress of the disease. In 29 of the 75 cases, recovery appeared to be attributable to the operation. Immediate and great relief was obtained in cases which ultimately proved fatal. Dr. B. has been led by his experience to operate in all cases in which the quantity of liquid induces either permanent or occasional dyspnoea of a severe character, and in all cases in which the pleural cavity is filled if, after a reasonable amount of treatment, otherwise the liquid does not diminish. Flint has told me that he can testify to the innocuousness of the operation when carefully done, and the relief which it affords, and its value as a means of rescuing patients from a condition of imminent danger to life.

Further, the conclusions of Bowditch, as just stated, are not only sustained by his large experience, but are consonant with common sense. If, by an operation trivial with respect to pain or any evil effects, and easily performed, the liquid effusion may be withdrawn at pleasure, this mode is certainly to be preferred to measures which are indirect, not very reliable, requiring considerable time, and producing

more or less disturbance of the system, and debility. An important advantage of the operation is, the liquid being removed before the lung has been subjected to long pressure, and has become adherent by dense layers of lymph, or, perhaps, organized tissue, the expansion takes place more fully, and is followed by less deformity of the chest from contraction of the affected side. The conclusions drawn by Bowditch from the data afforded by his large experience, with respect to the character of the fluid withdrawn, and its influence on the prognosis, are of practical importance. A sanguinolent fluid, at the first puncture, denotes the existence of malignant disease of the lungs or pleura, and, consequently, the case will end fatally. A case presenting a mixture of bloody, purulent fluid, at the first operation, is usually fatal. A fétid, gangrenous fluid is very rare; it denotes gangrene, and the case will end fatally. In all such cases, the operation may afford great relief, and prolong life.

I now proceed to notice the second form of operation—viz., by incision. This is done for empyema, pyothorax, or suppurative pleuritis. These names denote a variety of pleuritis, characterized by the accumulation, in the pleural cavity, of purulent fluid. The term empyema only expresses the existence of pus, without indicating its situation. Pyothorax is a better name, but this does not express the existence of inflammation. Suppurative pleuritis is a simple title suggested as more fully expressive of the affection. It is not necessary for me, here, to go into the clinical history of this disease. Suffice it to say, the pathological character is suppurative—acute, or sub-acute inflammation being the cause. A positive diagnosis, perhaps, may be made in cases in which spontaneous perforation of the chest does not occur, or, without waiting for the occurrence of this event, a small exploring trochar may be introduced into the chest, and a few drops of the liquid withdrawn; the gross and microscopical characters of the specimen thus ob-

tained will at once settle the question. This procedure is warrantable as a means of diagnosis in view of the bearing on the prognosis and treatment. Indeed, the operation is so slight as to be in no wise objectionable. In both the cases on which I operated by incision, the relief was immediate—one made a quick and perfect recovery, the other succumbed from secondary causes. The greatest objection to incision has been the fear of admitting air into the pleural cavity, and thereby increasing the inflammation, independent of the effect on the suppuration. In my experience, this has been exaggerated, and, in future, I shall never delay the operation on this account. I opened the chest of my first patient about thirteen years ago. He fell under my care after an acute attack of pleuro-pneumonia, from which he very imperfectly recovered, having a cough remaining, with some dyspnœa, for nearly five months. He gradually grew worse, but his former attendant opposed surgical interference, until his great emaciation and shortness of breath demanded it. I made the opening in the intercostal space on the left side, below the nipple, evacuating six or seven pints of fetid pus; it kept flowing during the next day. I then washed it out with carbolic acid freely, and for the patient ordered quinine and iron, with generous diet. He sank in about a week from inflammation of the right lung, followed by gangrene.

Autopsy.—The heart pushed much towards the right side; the left lung greatly compressed and nearly solid; the right lung far advanced in mortification; some enlargement of liver and spleen, with extreme general emaciation.

The other case occurred in a boy, about six years old, and is related in the Medical Record for August 4, 1877.

I will now read a very important quotation bearing on this subject, from the last annual report of the Boston City Hospital. The "Treatment of Empyema by Permanent Openings with Cases," is the title of an article by John G. Blake, M.D., which advocates, as the title suggests, free and early incision in the treatment of pyothorax as soon as the presence of pus is determined, and subsequent washing of the pleural cavity by antiseptic injections when the discharge is offensive. He reports one case, occurring in a boy, where empyema was cured by simple tapping, there being no reaccumulation of pus, and says: "A sufficient number of favorable results in children has been reported to justify postponement of the incision until repeated withdrawal of the pus fail to effect a cure. In adults the rule is to remove the pus at once by tapping, and, on its reaccumulation, to make the permanent opening. I am tolerably well satisfied that it is better to avoid unnecessary delay, and that, where pus is found in large quantities, operation by incision should be resorted to immediately.

The details of nineteen cases of pyothorax treated by free opening are given, ten of which entirely recovered, five were much relieved, three died under treatment, and one died from causes entirely disconnected from the operation or the disease. Local anæsthesia by ether-spray, or salt and ice, is preferred to full etherization. The period of treatment in the successful cases varied widely from forty-four days to six months, and one of those reported "relieved" had been operated upon, and remained under treatment three hundred and fourteen days, and was slowly improving at the date of the report.

ORIGINAL LECTURES.

CLINICAL LECTURES ON SURGERY DELIVERED AT STARLING MEDICAL COLLEGE, COLUMBUS, O. BY J. H. POOLEY, M.D., PROF. OF SURGERY.

LECTURE II.

Hydrocele.

The patient before you, Mr. S——, aet. 38, a native of the United States, and a plasterer by occupation, is afflicted with the very common surgical malady known as hydrocele of the tunica vaginales testis, a disease to which I propose to direct your attention this morning.

But before doing so I will first mention, and briefly comment upon, a somewhat unusual circumstance in this patient's history. It is this.

Four years ago he first noticed this hydrocele, which is on the right side; it grew slowly but steadily, until it hung half way down his thigh, and he had to have allowance made for it in the construction of his pantaloons. Such was his condition, and such had it been for some time, when on April 18, 1877, he fell from a step ladder, a distance of about six feet, striking upon his side and shoulder. He is quite sure he did not strike or hurt his scrotum in any way, and he felt no pain there at all.

He went home and lay down, feeling rather bruised and shaken by his fall, and about an hour and a half after the accident on feeling for his hydrocele, to his surprise it was not to be found, or at least a wonderful change had taken place in it.

The swelling was diminished more than one half in size,

it had lost its definite outline and tension, and instead of the familiar, hard, globular enlargement of the right side, there was a general, soft, boggy swelling of the scrotum. He was very much alarmed by this state of things, unnecessarily, of course, and sent for his physician, who never having seen or heard of anything of the kind before, and not knowing exactly what to make of it, brought him to me for opinion and advice. I saw him April 20th; the scrotum was then very nearly of the natural size, with its integument very much thickened and corrugated, both testicles plainly felt in their natural situation and free from swelling or tenderness.

There was considerable ecchymosis; indeed the scrotum was almost as black as a negro's, and this discoloration extended, though in a minor degree over the penis, and up for a considerable distance on the right inguinal region. He was free from pain or inconvenience of any kind; his anxiety was dissipated; all he wanted was an explanation of his curious adventure, and opinion as to the probable result. The explanation was not difficult; there could be no doubt that he had ruptured his tense hydrocele sac by the mere concussion of his fall; its contents had been discharge into the loose meshes of the neighboring connective tissue, and before I saw him, completely absorbed, whereas, the accompanying blood, or its coloring matter at least, had not.

Never having seen a case of this kind before, and not being well prepared to give an opinion, I confidently told him that his hydrocele would not come back; in other words that he was permanently cured. But the result has not verified my prediction, for in about three months from the time of the accident the sac began slowly to refill, and now, nine months afterwards, is about as large as ever, and presents all the ordinary characteristics of a hydrocele.

The accidental rupture of the sac of a hydrocele is quite a rare event, and does, in the majority of instances, though

not in all, as we have evidence before us, result in a permanent cure of the disease. I mentioned this case soon after it happened, at a meeting of the Columbus Academy of Medicine, when Dr. N. S. Townshend, of the Ohio Agricultural and Mechanical College, who was present, related the following, as having occurred in his practice many years before :

A man, who had a large hydrocele, was chopping wood, with the handle of the ax between his legs, and while thus engaged, he struck his scrotum a severe blow either with the axe-handle, or his doubled fist; he could not tell which. He suffered severe pain; the tumor almost instantly lost its defined character, and soon disappeared entirely. There was considerable echymosis of the scrotum, penis, and groin, which lasted a long time. The cure in the case was permanent, as the man was under observation ten years afterwards, and there was no return.

Percival Pott records the following case: "A middle-aged man showed me a hydrocele of the vaginal tunic, which had been near two years collecting, but from which the water had never been drawn. I advised him to have it done soon, and he fixed on the next morning. On his way home he got fuddled; fell down into the area of an empty house, and, in his fall, struck his scrotum against a piece of scaffolding. In the morning early he sent for me. I found him in bed, with a great echymosis under the skin of the scrotum, which was much swollen, and very painful. I would have persuaded him to have permitted me to let the water out, (thinking, thereby, to have taken off part of the tension), but he would not consent; and I was obliged to have recourse to fomentation, cataplasm, etc.

"In about a fortnight, all the echymosis was dissipated, and all the swelling from the sound side of the scrotum; and both the patient and myself thought that the tumor from the hydrocele was considerably less than it was before

the accident. By persisting in the same method, for about three weeks more. the whole of it disappeared, nor has returned since. Nor have I, ever since, seen the same attempt succeed."

In this case the cure was remarkably slow and tedious, the absorption of the fluid after accidental rupture generally taking place in a few days. Mr. Bransby Cooper, in his *Lectures on Surgery*, mentions the following: "A gentleman consulted me who had been the subject of hydrocele for two years, and had twice submitted to evacuation of the fluid by surgical operation. The fluid had, however, again accumulated; but, on the day before he applied to me, he had run against a post, and struck the scrotum. This had produced considerable inflammation, but no sign of the bursting of the tunica vaginalis. I ordered antiphlogistic remedies, and recommended that he should remain in a recumbent posture. This led not only to the relief of the inflammatory action, but, to my great surprise, the fluid became absorbed, and the hydrocele was permanently cured."

Notwithstanding Mr. Cooper's opinion to the contrary, we cannot help thinking there may have been a rupture of the sac in this case.

Sir Astley Cooper, to whom we may confidently look for information on almost any subject connected with surgery, says: "Hydrocele is not always cured by a blow which tears the tunica vaginalis. I once attended a gentleman who consulted me for a hydrocele; and who, while riding in the neighborhood of Gibraltar, was thrown upon the pommel of his saddle, and received a severe blow on the scrotum. The hydrocele, in a few hours, disappeared; but, in six months, again formed and was, he thought, as large as before. I injected it about two years after the above accident." Sir Benjamin Brodie relates a case of a hydrocele ruptured and cured by an accidental blow. Mention is also

made, on what authority I know not, of the sac having been ruptured by coughing, with a similar result.

And, finally, several cases are on record in which hydrocele, in the adult, has disappeared spontaneously, without any blow, rupture of the sac, or anything of the kind. This, which, in children, is common enough, as we shall presently see, is very rare in the adult.

But I think the most curious and interesting history on record of its kind is the following, which I quote from the Ohio Medical Recorder, November, 1877:

“Mr. A. C. T., aged forty-five, a resident of Belmont county, Ohio, gave the following unique history: About five years ago he observed a swelling which seemed to involve the left testicle. It gradually increased in size until it was as large as the largest cocoanut, and was very hard. One day, in 1873, in the harvest field, he happened to put his hand to the parts, when this hard mass was gone, and in its place was a soft diffuse swelling, involving the prepuce, the covering of the penis, the walls of the scrotum, etc. It was not attended by any uneasiness whatever, and did not deter him from proceeding with his work. In like manner, in February following; then in September, 1876, and again, in August, 1877, the same occurrence was repeated. Within a few days after each of these ruptures, these soft swellings pretty much disappeared, leaving the parts highly colored for five or six days, and the tunica vaginalis apparently empty. Since the last rupture, the sac has refilled quite slowly. The patient thinks its present size, although it is more than two months, is only about one-third its full size; yet, on tapping, eighteen ounces of fluid of a dark grumous color was removed. The testicle being healthy, two ounces of a fluid, consisting of equal parts of water and tincture of iodine, were thrown into the sac, and allowed to remain a few minutes, and then drained away.”

Though we have spent so much time over the subject of

rupture of the sac by violence, or otherwise, which our case suggested, we have still some time left to devote to the general subject of hydrocele, to which accordingly I now invite your attention.

The word hydrocele is formed by the combination of two Greek words, and means literally a watery tumor, or a tumor containing a watery fluid. Accordingly, we hear and read of hydroceles of the neck, referring to certain peculiar cysts of that region, a use of the word which I deprecate as confusing to the mind, preferring to confine the term to serous collections in the region of the scrotum, testicle, or spermatic cord. Even when thus limited it includes numerous species, such as hydrocele of the testis, encysted or diffused hydrocele of the cord, congenital hydrocele, etc. But when the term hydrocele is made use of simply and without any qualifying word, it is understood to mean a collection of serous fluid in the closed sac of the tunica vaginalis testis. To this commonest form of the disease, this hydrocele *par excellence*, so to speak, we shall devote our attention at this time, leaving its varieties and complications for a future occasion. Hydrocele, then, we may define as follows: an accumulation of fluid in the tunica vaginalis testis, producing a pyriform, fluctuating, and generally a translucent swelling in the scrotum.

It is a very common disease, more so in tropical countries than elsewhere. If we except the years of infancy and early childhood, when, however, it is generally of the variety known as congenital, not that it exists at birth, but for the same reason that certain hernial are called congenital, viz: because it exists with an unclosed communication between the tunica vaginalis and the peritoneal cavity—it is more frequent in advanced periods of life.

It occurs generally on one side only of the scrotum, and about as often on one side as the other. Sometimes, how-

ever, it is found on both sides at once, constituting a double hydrocele.

Ordinarily the sac of a hydrocele, consisting as it does simply of the distended tunica vaginalis, is single, and pyriform in shape, gradually diminishing in size from below upwards, and ending at the external ring in a well-marked constriction. Some interesting variations from these characteristics are occasionally noticed; it is sometimes quite globular, sometimes cylindrical, sometimes lobulated by the formation of pouch-like diverticuli from the main sac, sometimes hour-glass in shape from constriction, about the middle of the sac, the portions above and below the constricted part at times completely cut off from each other, so as to constitute really two sacs, but generally communicant by an opening more or less ample. Though, as remarked, the sac of an hydrocele generally terminates abruptly at the external ring, instances have been reported where it has been prolonged upwards into the abdominal cavity without communicating with the peritonæum; and this occult hydrocele has been found to contain nearly as much fluid as the external one, and sometimes to be separated from it. At times the hydrocele cavity is traversed by bands or trabeculæ, stretching across it from side to side. All these variations in the form of the sac are quite rare, the rule of its pyriform shape, with the base downward, being all but universal.

The sac is generally quite thin, being composed of the distended tunica vaginalis, and this with the tenuity of the overstretched scrotal integument, whose wrinkles are all obliterated, leads to one of its most characteristic features and one extremely valuable for diagnostic purposes, namely its power of transmitting light. The longer an hydrocele exists, as a rule, the thicker does its sac become, till in some cases^s it is a very tough, fibrinous resisting membrane. Calcareous^s deposits in isolated plates sometime take place upon its inner surface; and these have, in some cases, extended by

coalescence over the whole sac until it has become a solid, calcareous shell—a sort of earthenware jug.

The testicle is generally situated at the posterior and upper part of the tumor, out of harm's way, but sometimes for reasons that have never been satisfactorily explained, it is found in front; this fact, as we shall have occasion to remark further on, is one of practical importance. In ordinary hydrocele, the testicle is generally quite healthy, and remains unaffected by its unusual surroundings, being neither larger nor smaller than its fellow.

The fluid of an hydrocele, as you have repeatedly witnessed in this clinic, is a clear, transparent, amber or straw colored fluid, and, as I have demonstrated to you, by heating it in a test-tube in your presence, highly albuminous. Its specific gravity is about 1.025, and it contains, in addition to albumen and other organic matters, a small proportion of salts.

I have never witnessed any remarkable variations in this fluid, having never seen anything more unusual than a few curds or flakes of lymph floating about in it. But it does sometimes vary very widely from its ordinary and well known appearance. It is sometimes dark colored, brown, greenish, blood stained, and so on; sometimes thick and greasy, or gelatinous; sometimes grumous, or like coffee grounds. At times, and it is said especially in old people, shining scales of cholesterin may be seen sparkling and scintillating in it in great numbers.

More rarely there have been discharged from a hydrocele bodies like the false or movable cartilages sometimes found in large joints, and these have been seen not only loose, but also hanging by long attenuated pedicles to the walls of the sac, showing that they are produced somewhat in the same way here that they are in the articulations.

Hydroceles vary very much in size, which is best expressed and appreciated, by the measurement of the con-

tained fluid, the quantity of which is often very extraordinary. One thing has invariably struck me in tapping an hydrocele, and that is that the quantity of fluid has always seemed much greater than might have been expected from the size of the tumor. The average of such hydroceles as I have seen would certainly be as high as ten or twelve ounces, though twice this is not very unusual. It sometimes amounts to several pints. Mr. Butcher, of Dublin, mentions having withdrawn $1\frac{1}{2}$ pints on one occasion. But even this is nothing compared to the enormous collection in the scrotum of Gibbon, the celebrated historian, from which Mr. Cline drew off the astounding quantity of six quarts. This is, I believe, the largest hydrocele on record. A Mr. Davey, practising, I think, at the time, in Ceylon, mentions, though in somewhat ambiguous terms, a very large one.

He relates in the *British Medical Journal*, 1857, page 593, that he tapped an enormous hydrocele, hardly smaller than the body of a robust child, and removed a wash-hand basin full of serous fluid. There is a delightful uncertainty as to the amount of astonishment one ought to feel at his oriental narrative, for the bodies of children, even robust children, and even robust Ceylonese children may, one should think, differ very considerably in size.

If the case is not unique, certainly the comparison is.

Hydrocele is essentially a chronic disease, which may last for many years, or a whole life time, without having, as a rule, any tendency to recovery, or to do any harm beyond the growing inconvenience of its slowly increasing bulk. It seems to originate in an accumulation of the natural secretion of the part, determined by loss of balance between the secerning and absorbing functions, generally without any inflammatory complications. Its cause is involved in obscurity, and generally none is known to the patient. Occasionally it has been attributed to blows or other injuries, but even in cases supposed to have been thus caused, much

doubt remains. Prof. Geddings, of South Carolina, says that it is generally caused by inflammation of the urethra, but so far as I know, he is the only author who makes the statement. He brings forward no facts to substantiate it, and with all due respect to him, I believe it to be utterly without foundation.

The diagnosis of hydrocele is not difficult, and yet mistakes with regard to it are so frequently made, that I need offer no apology for dwelling upon it at considerable length. The affections for which hydrocele is most liable to be mistaken, are hernia, varicocele, hæmatocele, and various enlargements of the testicle. The most common error is that of confounding it with hernia, and I may mention here, as a matter of curiosity, that the very nomenclature of the disease has been tainted with this confusion, for it is called by many of the common people, and in some of the old surgical treatises, water rupture, and by the Germans, by the exactly equivalent term, *wasser-bruch*. The following are the main diagnostic differences between hydrocele and hernia :

In hydrocele, the swelling begins at the bottom of the scrotum and ascends toward the external ring, and is more or less distinctly pyriform in shape, variations in this respect, as already stated, being very rare. In hernia, the swelling commences above and diminishes as it extends, being smaller at its lower part. The common hydrocele of adults, to which alone this lecture relates, is a permanent swelling, uninfluenced by position or manipulation. Hernia (except when irreducible) recedes when the patient lies down, or may be made to do so by manipulation, or taxis, as it is called, and returns when he assumes the erect position, or the pressure is removed. The tumor of hydrocele is dull on percussion; a hernia is resonant, if not over its entire surface, generally, at least, in some part thereof, for it generally contains some intestine. In hydrocele, there is more or less sensation of fluctuation, and no impulse communi-

cated to the fingers on the patient's coughing; hernia does not fluctuate, and does give an impulse when the patient coughs. In hernia, the swelling is opaque, and does not transmit light or become translucent, when examined with artificial light, whereas an hydrocele does. This symptom is so important and peculiar, that we must dwell on it for a moment. Its presence is proof positive in favor of hydrocele, although its absence is not decisive against it. It may fail to be present from dark color or turbidity of the fluid, or extreme thickness of the sac, but in the immense majority of hydroceles it is present to a more or less marked degree. In seeking to elicit this sign, the patient should be taken into a darkened room, and while the tumor is grasped with the left hand, in such a way as to put the parts upon the stretch, a light is placed behind it, as near as may be without burning the patient, and shading the front of the scrotum with the right hand, the light may be seen shining through. Sometimes we may assist ourselves by looking through some tube, such, for instance, as a piece of stiff paper, rolled up into a hollow cylinder. Another plan is to have the patient lying upon a table, in a convenient position, and while making the examination, the head of the examiner may be covered with a shawl, or screen of dark cloth, after the fashion of the photographer when looking through his camera, at his waiting victim.

Finally, in cases of doubt, it is allowable to puncture the swelling with a fine exploring needle or trocar, which will settle the question.

The diagnosis from varicocele, cannot be difficult when we remember the following points in which it differs from hydrocele. Varicocele presents an irregular surface, and feels like a coil of earth worms under the skin; it slowly disappears when the patient maintains for some time a recumbent position, and is generally the seat of a dull, dragging pain, at least when of a considerable size.

Hæmatocele follows immediately upon an injury, and

soon attains its maximum development; the fluid effused is dark colored, hence the tumor is without translucency, and there is frequently superficial ecchymosis about the scrotum.

Enlargement of the testicle will often occasion great perplexity, and demand great care in the examination. Common orchitis, with its hard, heavy, painful tumor, can scarcely do so, but encephaloid, sarcomatous, and other growths may be very difficult of discrimination. For their proper appreciation we have only to remember and carefully apply the distinctive symptoms of hydrocele, and, in cases of doubt, resort to the exploring needle. This is all the more necessary and proper from the fact that these diseases are often complicated, with the effusion of more or less fluid into the tunica vaginalis. The prognosis of hydrocele, as already intimated, presents nothing of importance for our consideration; it does not threaten life, it does not cause severe pain; it simply remains as a permanent inconvenience, liable to increase indefinitely, and with greater or less rapidity.

We come, now, to the most important part of our subject, viz., the treatment. Having diagnosticated, and prognosticated, like wise and learned men, what can we do to cure our patient?

The treatment of hydrocele is divided into the palliative, and the radical. By the first we simply alleviate for a time our patient's condition, by the latter we remove the disease and prevent its return. The palliative treatment consists in evacuating the contents of the tumor, from time to time as may be necessary, and thus keeping our patient in a condition of tolerable comfort. The operation of tapping an hydrocele may be done with a lancet or bistoury, but is very seldom so performed, a trocar and canula being generally used as most suitable and convenient. A medium sized or rather small instrument should be made use of.

Some surgeons prefer to make a little preliminary incis-

ion through the integument, but this is unnecessary unless you are aware from previous experience, or otherwise, that you have to do with a very thick or tough sac. Ordinarily the trocar may be used without the preliminary incision, and in the following manner. The scrotum is grasped and put upon the stretch by the left hand, and the trocar, its point having been dipped into sweet oil, is thrust perpendicularly through the various coverings of the hydrocele at its lower and anterior part, avoiding any superficial veins that may be present, and the testicle, whose situation has previously been made out, and as soon as the instrument is felt to have entered, its direction is changed, and it is passed on obliquely upward, the trocar withdrawn, and the fluid evacuated through the canula.

After tapping, the hydrocele, sometimes, though rarely, does not refill, but is permanently cured.

Much more frequently however, indeed as a general rule, it fills up again in the course of a few months, and must be again emptied, and the operation has to be repeated at varying and uncertain intervals as long as the patient lives.

Such is what is called the paliative treatment or tapping of hydrocele, and I think you will find quite a number of persons who will prefer it to any more radical treatment; indeed, in the aged, feeble, excessively timid, especially those who are in easy circumstances, I do not think it worth while to recommend any other. Dr. John Mason Warren said: "As a general rule, I have found that the wealthier classes in life prefer the palliative operation of tapping. The laboring classes, who are more inconvenienced by it in their vocations, prefer the radical cure." And in this, according to my experience, he was quite correct.

Simple as is the operation of tapping a hydrocele, there are one or two points about it worthy of attention. First, always, if possible, ascertain the exact position of the testicle before proceeding. As already said, this is generally at

the upper and back part of the sac, but it may be in front. A slight prick of the testicle will not do any serious harm, but it gives unnecessary pain, which is always unsurgical and to be avoided; should it be in front, however, and unrecognized, you might thrust your trocar quite through it, or, wounding it deeply, still fail to reach the fluid, much to your patient's disadvantage, and your own disgrace.

Above all, never tap an hydrocele when in a state of active irritation or inflammation; to do so is very dangerous and may result most disastrously. I could cite several cases where tapping, under such circumstances, has led to a fatal result.

The radical cure of hydrocele has for its object either the obliteration of the sac, or such a change in its lining membrane as shall prevent a re-accumulation of the fluid. For this purpose there have been quite a number of operations proposed and practiced from time to time.

Before proceeding to speak of these, I will just mention, as mere curiosity, and for your delectation, one or two old ideas on the subject of the treatment of hydrocele. Dr. James, an English writer of 1745, and very old-fashioned, even for that time, says that the best remedy in new-born infants is for a man in good health and fasting, to chew some nutmeg, and breathe often, every day for some time, upon the affected scrotum.

He adds, "I the more readily recommend this, as I have frequently seen the good effect of it. In the mean time, we do not despise the holding spirit of wine in the mouth, and at the same time breathing upon the scrotum."

Marini, an Italian surgeon, forbids any operation to be performed while the sun is in scorpio, which he says will protract the cure.

Among the operations for the radical cure of hydrocele, we may mention incision, excision, caustic, seton, suture, and injections of various kinds. The operation by incision

is an old one. It consists in laying the sac freely open, by a long anterior incision, after which the older surgeons introduced into the cavity some irritant material, such as the red oxide of mercury. This part of the proceeding is now omitted, the sac being simply filled with dry lint, and allowed to fill up with granulations.

This mode of treatment is unnecessarily severe, and should be reserved for such cases as prove rebellious to milder methods, which, however, will not be very numerous. There are two cases on record, in old numbers of the *Lancet*, of the cure of hydrocele by the accidental incision of the sac, which, I think, are interesting enough to be worth recital:

A French naval surgeon says: "On board of our ship, while in Toulon Roads, was one Napoleon Agostini, a Corsican by birth, who had on the left side an enormous hydrocele, which he refused to have operated on. He had been allowed to go ashore, where, with some of his shipmates, he entered a cabaret, where he stayed drinking for some hours. Having all got intoxicated, they quarreled and fought, and one of the men made a blow at Agostini with a knife, by which his trousers were cut from below the waistband, half way down the thigh. An incision, about an inch and a quarter in length had been made in the scrotum, which not only suffered the fluid but the testicle also to escape. Next day, before the effects of his drunkenness had disappeared, the man was brought on board. The testicle was cleaned, returned into its proper situation, and retained there by four sutures. Moderate adhesive inflammation was set up, and the wound had healed by the fourteenth day. Three months have elapsed and the hydrocele has not returned." The other case is given in the following words by P. Ingram, surgeon: "The account of the cure of a hydrocele by a stab, in the *Lancet*, of last week, reminded me of a similar occurrence, which took place when I was in Calcutta, in 1835. A Sepoy, in a state of intoxication, repaired to the

Soba Bazaar to purchase a pumulo, a species of fruit similar to an orange, but generally about six times larger. The Hindoo, who kept the shop, very quietly informed the Sepoy that he had sold all his fruit of that description, and, of course, could not, at that time, supply him with one.

"The Sepoy became quarrelsome, and the Hindoo, in his turn, quarreled with the Sepoy, stoutly denying that he had any pumulos in his possession.

"The enraged Sepoy then made a thrust with his bayonet at the Hindoo's langooty, (a handkerchief used for the purpose of concealing and supporting the scrotum, similar to a suspensory bandage), swearing that he had one concealed there; when, to the surprise of all present, the shop of the Hindoo was immediately inundated with water. The bayonet had perforated a very large hydrocele. The Sepoy was immediately taken into custody, and after he became sober, expected nothing less than hanging for murder, but he was only slightly punished, and the Hindoo had the happiness, sometime afterwards, of thanking the Sepoy for removing his pumulo, alias curing his hydrocele."

In the operation by excision, not only is the sac laid open, but a portion of it, more or less extensive, laid hold of by forceps, and dissected away. As far as I know, this operation is never performed at present. The cure by caustic consists simply in removing a portion of the anterior wall of the scrotum and sac, by the application of caustic potash, or some other powerful estharcotic; it must be both a painful and tedious process, and is justly abandoned.

The seton was first mentioned as a means of curing hydrocele by Guido di Cauliaco, in 1498.

In modern times the celebrated English surgeon, Mr. Percival Pott, preferred it to every other means, until the latter part of his career, when he adopted the method by injection, which he had previously spoken of in terms of strong disapprobation. I shall not stop to describe the method of in-

troducing the seton, as it is now seldom, if ever, used. Various forms and substances have been recommended, among others a loop of silver or iron wire left in the scrotum for a certain time, but this does not seem to possess any real advantage over the more ordinary materials. The objection to the seton is that it often produces a very high and unmanageable degree of inflammation, and death has even taken place from this cause. Dr. J. Mason Warren reports that in one case where he employed the seton it led to a very severe hemorrhage. The celebrated Ricord, of Paris, at one time used a plan, which I have called suture, but which may, perhaps, be looked upon as a modification of the seton. He passed double threads, or ligatures, through the scrotum antero posteriorly, and tied the ends before and behind over pieces of bougie, after the manner of the so called quill suture. Ricord, as far as I know, has never had any imitators in this mode of practice.

Of late years the treatment by injections of various kinds has almost entirely superseded every other plan. The first use of injections for the radical cure of hydrocele is attributed to a British army surgeon named Monro, who employed spirits of wine. The method was first brought extensively into notice by Sir James Earl, who published a work on the subject in 1791, and recommended for the purpose wine diluted with one-third part of water. Earl, and those who followed him, injected a sufficient quantity of the irritating fluid to distend the sac to nearly the dimensions it had before the hydrocele fluid was drawn off. It was allowed to remain a few minutes, or until decided pain was produced; it was then allowed to flow out through the trocar; the patient was put to bed, and the resulting inflammation, though quite manageable, was generally sufficient to lead to the desired cure; and the method must be allowed to be an improvement on all that had gone before it. A great variety of fluids were made use of, such as alcohol, wine, cold water,

lime water, solutions of alum, tannin, corrosive sublimate, iodine, sulphate of zinc, and so on. A case is mentioned by Sir Astley Cooper in which milk was injected on the supposition of its being a mild, unirritating fluid; however, very severe inflammation followed, and an abscess in the tunica vaginalis. When an opening was made the milk came out in curds. Spirits of turpentine has also been used, with what result I do not know. Of all the substances recommended for injection by this method, a solution of sulphate of zinc, $\mathfrak{z}\text{i}$. to the pint of water, is, in my opinion, decidedly the best. I have used it on several occasions, with complete success. Care is necessary in making these injections that the trocar is kept well in the sac of the tunica vaginalis, and that the fluid is all withdrawn before the trocar is removed. If this be not done, some of the irritating fluid may find its way into the loose areolar tissue of the scrotum, and produce inflammation, or sloughing. I remember a case of the kind in my early practice, which gave me a good deal of uneasiness. From some unlucky movement of the patient, some of the solution of zinc found its way into the scrotal tissues, and a circumscribed slough, about as large as a quarter, took place. This did no harm, but rather made the cure more complete. But it is a disagreeable accident, and might have very serious consequences.

In a paper published in the Transactions of the Medical and Physical Society of Calcutta in 1834, and subsequently in a paper read before the London Medico-Chirurgical Society Nov. 1841, published in the *Lancet* Nov. 20th, 1841; and in another paper in the *Lancet* for April 30th, 1842, Dr. J. R. Martin, of India, recommended the injection of a small syringeful of a mixture of tincture of iodine $\mathfrak{z}\text{i}$ and water $\mathfrak{z}\text{iii}$ which was thrown in and allowed to remain.

Dr. Martin supports his recommendation by the experience of over 2000 cases, with less than one per cent. of failures.

Since these publications the iodine injection has been very generally adopted, and is in favor with the majority of practical surgeons. You have seen it done repeatedly in this clinic, and will therefore be the better able to follow the description of the operation. After the evacuation of the contained fluid, taking care that the canula remains in the sac, so that the fluid is not delivered into the meshes of the areolar tissue, you take a small syringe, the nozzle of which has been previously ascertained to fit closely into your canula, and load it with two or three drachms of the fluid you intend to inject, (I always use the common officinal tincture of iodine, full strength, and see no reason to dilute it, or mix it with any other ingredients,) then slowly throw it in through the canula, having withdrawn which you shake the scrotum or rub its sides together so as to bring the fluid as thoroughly in contact with its interior as possible. Sometimes pretty smart pain is at once occasioned; occasionally it does not come on until some hours later, and now and then, as in the last case we had before us, scarcely any pain is felt, and I have known it to be entirely absent, without compromising the result, which was a perfect cure.

The amount of reaction produced by the injection varies considerably, but seldom requires treatment. If it should do so, rest in the horizontal position, elevation of the scrotum, with the application of warm fomentation, generally suffices. Sometimes the swelling and inflammation subsides very slowly, requiring even weeks for their complete disappearance, but this is unusual. The iodine has been detected in the urine of the patient an hour and a half after the injection.

In cases which resist the iodine treatment, Butcher recommends the introduction, by means of a probe passed through the canula, of a few grains of red oxide of mercury into the sac; another writer, whose name I have forgotten, speaks of the same application, and says that one of his patients was salivated by it.

Unless the circumstances of the patient make it imperative or highly desirable, the hydrocele should be tapped at least once before resorting to the injection for radical cure; for sometimes, as already said, a simple tapping proves curative, though this is a rare event. It has often been taught that injections cure by producing adhesive inflammation and obliteration of the sac, but numerous dissections have proved that so far from being the rule, this very seldom occurs. Exactly how the curative influence is produced is by no means easy to say. Billroth, speaking of iodine injections in hydrarthrosis, says:

"The iodine is deposited in the surface of the membrane and in the endothelium; it remains here for months, at least, and by its presence appears to prevent further secretion. At first there is a strong fluxion with serous exudation, but the serum is again absorbed by the still distended vessels, and subsequently the membrane shrinks to the normal volume by condensation of the connective tissue, which subsequently remains more dense." He goes on to remark as follows: "So we may consider the process of cure as analogous to the similar process in the tunica vaginalis testis in the cure of hydrocele; after injections of iodine in hydrocele, there has been an opportunity of making many examinations, from which the course of cure appears to be as above stated; the shrinkage of the serous membrane, with new formation of endothelium, seems to me to be the final cause of the arrest of the secretion."

When the hydrocele is very large it is not safe to inject it after the first tapping; it should be tapped and allowed to partially refill before the injection is made. By this course of procedure a smaller surface is exposed to the irritant action of the remedy, and the effects are correspondingly less severe.

I may mention here that I once cured an hydrocele merely by moving the trocar about rather roughly in the sac

after evacuating it, but I cannot recommend the plan for your imitation, for the reaction was much more severe than I have ever seen it after iodine injection, indeed quite unpleasantly so.

Several times I have seen hydroceles cured by puncturing the sac in numerous places with a common exploring needle, and allowing the fluid to drain slowly away and to infiltrate the areolar tissue, but this plan is unreliable.

Lately I have seen accounts in the journals of hydroceles almost instantly cured by electrolysis, but we need more experience on this point before we can speak definitely about it.

To sum up under the head of treatment, I would say to you, after a preliminary tapping, and this is imperative if the hydrocele be a large one, inject iodine; if this fail, which will be very seldom, then resort to incision.

But remember that every case of hydrocele does not demand radical treatment. If the patient for any reason prefers the simple palliation of occasional tapping, he should by all means be allowed to have his own way.

CLINICAL RECORDS.

ART. V.—*Charity Hospital, N. Y. Service of* DR. F. N. OTIS. *Operation for Stricture of the Rectum.* Reported by Dr. JOSEPH MEYER, House Surgeon.

Mary Stephens, aet. 24; single; native of the United States; occupation, a domestic; admitted to Hospital, Oct. 29th, 1877.

Previous History.—Patient states that she has been healthy until seven years ago, when she contracted on her privates a sore which proved to be a chancre. At the time, patient was put under the influence of mercury and had no noticeable secondary trouble until two years later, when her hair began to fall out and an eruption appeared on her face. Since that time she has suffered from no trouble but the eruption, except a rectal trouble which came on about one year ago.

The eruption on her face at the time of admission to hospital was a tubercular syphilide.

Her rectal trouble, for which one year ago she came to the hospital, proved upon examination to be stricture, for which she was treated for several months with bougies without apparent benefit. An operation was proposed at the time, but the patient objected.

At the time of second admission to hospital (Oct. 29, 1877), patient suffered from a constipated diarrhoea. Her stools were most frequent in the morning and were small and usually tinged with blood. A few weeks previous to admission patient noticed that she had several stools after each meal consisting of fœces and muco pus tinged with blood. They were accompanied with excruciating pain, lasting for some time after passage. She occasionally suffered from accumulation of gas within the intestines which was sometimes sufficient to cause a dyspnœa.

Examination revealed a stricture of rectum extending almost as far as the index finger could reach. This was made up of circular fibrous bands and nodules, thickening the rectal wall, especially anteriorly.

Dr. Otis proposed an operation, which he performed Nov. 14, 1877. Patient's bowels were first emptied by a large injection of oil, soap and water. She was then placed upon her back and etherized. The index finger was introduced a little above the highest stricture and a rectal stricture knife being passed in along the finger, the bands were cut anteriorly, from above downwards. After complete division of all fibrous bands, the finger could easily be passed as far as its length.

There was little hemorrhage at the time of the operation, and this soon stopped without interference.

The after-treatment consisted simply in keeping the bowels confined for three days, by opium and iodoform suppositories. The bowels were then emptied by an injection

of oil, after which iodoform suppositories were introduced. The bowels, from the third day after the operation until the time of cure, were regular and attended by neither pain nor discharge.

An examination of the rectum (Dec. 1st, 1877), showed entire absence of stricture; the mucous membrane appeared thickened but was in other respects normal.

In connection with the above, I may also cite from cases of ulcer of rectum which occurred during the service of Dr. Otis (Charity Hospital, Blackwell's Island), which were benefited by stretching the sphincter.

First Case. Bella J. (aet 21, admitted Oct. 21). The patient had an ulcer of rectum, situated just between the external and internal sphincter (making a sort of reservoir there), and had suffered from three attacks of hemorrhage, losing at each time about four ounces of blood. She also discharged a good deal of purulent matter tinged with blood. Patient had a good deal of pain at the time of motion, with an occasional attack of diarrhœa.

Second Case. Mary L. (aet 21, admitted Sept. 29). Patient had a rectal ulcer, due to extension of ulceration from mucous patches about the anus.

Third and Fourth Cases. Ellen B., admitted Oct. 1st, and Annie B., admitted Oct. 4th. Chancroidal ulcer of rectum.

The last three cases suffered principally from tenesmus, accompanied by more or less discharge of pus tinged with blood.

All of these were treated in the same way; all were etherized, the sphincter was thoroughly stretched, and the ulcers touched with nitric acid.

The after-treatment consisted, also, as before, in confining the bowels for three days by means of opium and iodoform suppositories; then an injection of oil was administered and suppositories of iodoform (5 grains each, three times a day) until patients were well. At the same time easily digested

food, in small quantities, was given and the bowels were kept open.

Results: Mary L. was discharged cured three weeks after the operation; Ellen B. two weeks after, and Annie B. four after the operation. Bella J. is well of ulcer of rectum, but is still in the hospital suffering from secondary manifestations of syphilis.

ART. VI.—*Temporary Paralysis of Muscles of Right Side of Face.* By C. B. White, M.D., Surgeon U. S. A.

Serg't I. N. H., Jr.; aet. 25 years; single; native of United States; tall, slender, of good habits; by occupation a musician; found himself suddenly unable to blow the cornet, his usual instrument. This happened on October 5, 1877, and was preceded by no premonition, except some twitching of the muscles shutting the right eye, on the day before. He told me he had just before, or some hours before, been practising some difficult music, and when he wished to take part in the garrison concert of October 5, found himself entirely unable to play. There is no history of headache, earache, or other accompanying nervous symptoms; there was not present anæsthesia or numbness of the part, but the right eye remained open and staring, except when pulled shut, and the conjunctiva showed passive congestion, the tongue, when thrust out, bent to the right side, and the buccinator muscle was so affected that he had to put his finger into his mouth while eating, to dislodge the food from the right side, when desirable to change it. This was the condition October 7, when he reported at surgeon's call. Electricity was applied daily, and a pill of extract of *nux vomica* (gr. $\frac{1}{3}$) and iron by hydrogen (gr. 4) administered three times daily. In ten days he commenced to close the eye by voluntary motion, and in about three weeks he could shape the lips into a position to whistle, but even now (November 2) the aperture thus

made is rather towards the right side, being beyond the median line, and he can not yet hold the wind for an air instrument. The appetite and nutrition have remained good and out-of-door exercise has been enjoined.

The orbicularis palpebrarum muscle was paralyzed, and the other muscles notably affected were the buccinator, levator anguli-ovis, levator labii, superioris; probably others were affected, but the absence of their motion was not obvious. The muscles of deglutition and of the voice did not seem affected. This young man has the peculiarity of having a sort of air chamber, apparently connecting with the fauces or top of the larynx, which he can fill or empty at will. This chamber is more readily filled now that his disability is leaving him, than while it was at its height; it is upon the left side of the neck. It has been my lot to observe, previously, two cases in the United States service, almost similar. One, a bugler, taken suddenly with loss of power about the face while learning to blow, subsequently recovered; the other, also a musician, affected by a more extensive loss of power, had not fully recovered when he passed from under observation. The last case appeared more like the result of an embolism.

ART. VII.—*Case of Ovariectomy with Interesting Complications.* By C. W. DUNLAP, M.D., Springfield, Ohio.

DR. POOLEY—*Dear Sir:* I have a case of an operation for ovarian tumor which I wish to report to you, thinking it may be of some interest to you and the profession. Not that there was any new plan adopted in the operation, but the complications during the operation, and more especially in the after-treatment, might be of some interest and benefit to the readers of your journal, (if they take time to read this article.)

Dr. C. E. Beardsly, of Ottawa, Putnam county, Ohio, spoke to me during the last session of the Ohio State Medical

Society, at Put in-Bay, of a case of ovarian tumor he had on hand and asked me if I would go to his place and operate on it. I told him I would, and on Thursday, June 21, 1877, I received a letter from him (Dr. Beardsley) saying the patient would be ready for the operation by Tuesday, June 27, 1877. And I, with Dr. C. E. B. and the other necessary assistance, operated. I had made an examination of the patient before commencing the operation, and I told the physicians present that the adhesions I thought were very extensive. But when I cut through the abdominal walls, into the cavity, I found they were (the adhesions) more than I expected.

But to commence at the first, I made an incision along the median line about four inches in length, down through the abdominal wall: of course, cutting slowly and carefully. When I had made an opening into the cavity, something resembling the intestines came up, completely filling the opening I had made; for a moment I was at a loss to know just what it was or what to do. I made an examination and found, what ever it was, it contained fluid, and would have to be tapped and emptied before it could be replaced; and I made up my mind to tap it, intestine or not. So I plunged my knife into it and let out about a quart of clear looking fluid. Then, on further examination, I could feel the tumor still below what I had already opened. I then enlarged the opening, and found that what I had tapped was a hydatid of the omentum; and that the loose end of the omentum was firmly attached to the front walls of the abdomen, and to the tumor, near the pedicle; I also found twelve or fifteen small hydatids, which I opened, and discharged the contents; and then, after tearing up the attachments of the omentum and ligating the blood vessels that needed the ligature, I came to the tumor proper. I found that it extended upward under the short ribs, and dipped down behind the intestines. It was firmly attached to the lower border of the spleen, and in the lumbar region. It also dipped down and completely

filled Douglas' cul-de-sac, being attached to the whole of it, the adhesions extending to the very fundus of the uterus.

After some difficulty I succeeded in removing the tumor. I neglected to state that in breaking up the adhesions in the lumbar region, I was compelled to ligate one of the mesenteric arteries. Having removed the tumor I dressed the patient and put her to bed.

And as I said before, I write you this letter to report the complications in the after-treatment. I will send you a letter from Dr. C. E. Beardsley, which he wrote to me some time ago, giving me the history of the case before and after I had seen her. With this you will find a letter from Dr. C. E. B.

Yours truly,

C. W. DUNLAP.

OTTAWA, OHIO, *August 6, 1877.*

C. W. DUNLAP—*My Dear Doctor:* To-day I will hastily speak of Mrs. Thompson, and for fear you have not had her age, etc., will commence by saying, she (Mrs. Thompson) is now thirty-four years of age; was operated upon for ovarian tumor on June 26, 1877. The attachments and adhesions to the omentum, bladder, intestines, and uterus, I will not speak of, as you have all down in your notes, no doubt, and will refer to them and give the case full justice.

The third day after the operation she came almost entirely under my control. There seemed to be nothing unusual in the reaction, nor in the case, with one exception, and that was the scanty amount of urine voided, up to the eighth day, when she become somewhat distressed from flatus and tympanites. To relieve this condition, I gave one-half ounce of castor oil; and in four hours gave her an enemata of castile soap suds, which acted nicely, giving remarkable relief. The only medicine given or seemed to me to be necessary, was one-eighth grain mophia given hypodermically, say an ounce in six hours; brandy and food was given as the stomach would bear up, to

this, the eighth day. All day of the eighth, and up to 4 A.M. of the ninth, there was a most exhausting vomiting of a coffee-ground character ; and this continued until the bowels were acted upon ; during this time I gave her small pieces of ice, and had her swallow them with a few drops of tincture of peppermint. As soon as the bowels were moved, gave her morphia, one-eighth grain, hypodermically. She rested nicely for twenty-four hours, and the vomiting commenced as on the eighth. Ice, brandy, peppermint, etc., all failed to give relief. On the twelfth gave her another one-half ounce of castor oil, assisting the action with the soap-suds injection ; and as soon as the bowels acted had the same marked relief as before. From the fourteenth day, she had no more of those vomitings, and seemingly gained hourly. On the eighteenth day, when she became tympanitic, with pain and a sick stomach, with some vomiting, ordered her the usual dose of castor oil as before, assisted with the enemata of soap-suds, and instructed the nurse to give her a teaspoonful of brandy at the time her bowels moved, should she feel much depressed. Her bowels moved early in the morning, and the nurse mistaking a four-ounce vial of carbolic acid, which was used diluted to disinfect the cloths used to dress the abdominal incision with, and gave her a drachm or more of it instead of the brandy ordered, she, the nurse, pouring it in a tea-cup, guessing at the quantity. As soon as the patient swallowed it, she cried out with pain, and an apparent asphyxia seized her. The cause was almost instantly discovered, and woman-like, she rushed for the cream-crock, and gave her a pint of cream or more, and sent for me, stating what she had done. I hastened to the patient with a stomach-pump, pumped out the stomach's contents, and refilled it with the albumen of a dozen of eggs, and pumped them out ; this I repeated several times, and filled the stomach as often with cream from the old nurse's cream-crock. The mouth and throat was entirely cauterized, and looked as white as if it

had been painted with white lead; the parts were perfectly anæsthetized. In two hours the radial pulse were not perceptible, and death seemed imminent by asthenia; however, she rallied in twenty-four hours and seemed quite cheerful. The treatment for some days was small pieces of ice, gum arabic, sub. carb. of bismuth, with morphia, as each were indicated. The ligature did not come away for five weeks; then I applied an elastic cord, so as to tighten and keep the ligatures upon a stretch; they came away in twenty-four hours. She is now entirely well, and will go home to-day.

C. E. BEARDSLEY.

TRANSLATIONS.

Description of a Case of Rabid Hydrophobia Happening Two and a Half Years After the Bite of a Mad Dog. Read before the Academy of Medicine, Paris, by Doctor FEREOL, Physician to the Municipal Hospital of Paris. Translated by BARNARD ELLIS, M.D., Alumnus of the College of Physicians and Surgeons, New York City.

All that which relates to the disease of hydrophobia has the sad privilege of exciting our interest in a high degree, not only on account of the terrific spectacle presented by such a horrible malady, but on account of the numerous questions which arise in general pathology, and in doctrines which arise when we contemplate this strange scourge, so much studied, and so little understood.

The case which I submit for the consideration of the Academy merits, it seems to me, special attention.

The question is, in fact, whether we can attribute to a bite given two and a half years before death the disease which took the patient off in three days.

I am the first to acknowledge all the alarm that such a

question is apt to create, and the unpleasant impression which one is apt to produce by reading it. But the case having been brought before me, I have no right to shun that discussion which the subject requires. Then, what could I do better than to present it to this learned body which contains specially the most competent men in all branches of Biological science, and whose works have already more than once thrown brilliant light upon the pathology of this disease.

Now, I say, at the threshold of this discussion, that it is an extraordinary exception to admit so long a period of incubation. The average duration of time, at the expiration of which a person has the right to believe himself free from inoculation, is, happily, much shorter; the limit of from forty to sixty days being true in most cases.

In so delicate a question, I shall be excused if I do not omit any of the details which I have been able to gather, as the smallest fact may be here of the greatest importance; on it might depend a modification of the diagnosis, and it is for this reason that I have been so particular to give all the facts I was able to gather. I now present to you the clinical notes taken, under my direction, by M. Fourestie, the interne in my service.

CLINICAL NOTES.

On June 18, 1874, at 8.30 o'clock A.M., D—, aged forty-eight years, at the time doctor of medicine and pharmacist, entered the above named hospital. This patient is of a robust constitution; a little above average size; complexion dark brown.

Seated in his bed, his eyes brilliant, and very restless, we are struck at once by his strange air, and wild looks. His answers are short and rapid—his pupils much dilated. He affects to be calm, seeing those around are so, but we feel that he is internally anxious and agitated. He tells us that

he has passed the night in a state of extreme surexcitation, and, not having been able to sleep, has written more than fifty letters. Being willing to give us an idea of his temper, he says he seldom puts himself in a passion, but if he ever did have a quarrel with any one, he would cut them into little pieces. Meanwhile, he pronounces no word incoherently, and answers very clearly to our questions.

He complains of a profound aversion to liquids, an aversion which has already lasted several hours, and he brought several œsophageal bougies for us to try, as he said, to make him drink in spite of himself. He demands an emetic to *clear out the bile* which is suffocating him, and constricting his throat; he also desires a bath, and assures us he will not be afraid to go into the water.

We present to him a mirror, and he turns his head away precipitately, and at the same time is taken with a laryngeal spasm, marked by a catching of the breath (like a man who has been suddenly surprised by a dash of cold water); still he lets us examine his throat with a silver spoon, without manifesting any repulsion. If we present to him a glass to drink from, even empty, he refuses it immediately.

In passing the hand two or three times before his face, so as to disturb the air, we produce a spasm, and the patient recoils with fright. A handkerchief agitated before his face produces the same effect. The fresh air from the window produces disagreeable impressions, and he asks that we shut the door. We present to him a little bottle of ether which he brought, but he cannot support the odor, and begs us to close it immediately. He says he has eaten nothing for two days, and feels weak, but has no appetite. We present him a piece of bread, of which he eats several mouthfuls, slowly, but without satisfaction. He complains of a dry mouth, which, he says, increases the difficulty of swallowing. *He has no sputation.* Dr. Féréol discovers a cicatrix on the dorsal surface of the left hand, at the level of the

second interosseous space. Asking him its origin, he answers rapidly, and without seeming to attach any importance to it, that he had been bitten by a mad dog a long time ago. He tells us that, yesterday, he suffered pain in the left arm, vaguely in all the arm, finally fixing itself principally about the biceps. Let us remark here, once for all, that the cicatrix did not undergo any appreciable change during the course of the disease, and that it was not specially painful.

Our patient has a little trembling of the lips, and the two hands extended, open, show slight oscillations. The tongue is gray and a little pasty; the posterior portion of the pharynx is of a brilliant red, contrasting with the paleness of the palate and of the buccal mucous membrane. No pain on pressure, either upon the larynx or upon the sides of the neck. No hyperesthesia of the skin; on the contrary, he allows us to pinch him very severely without knitting the brows, and says he feels it plainly, but that it gives him no pain; and he adds, with a sort of boasting manner, that he has often seen danger, but that he don't cry easily.

Examination of the chest, discovers a slight pleural friction, sound anteriorly, and on the right side. During this examination, the patient prattles without cessation; is much agitated, and several times slips out of his bed and in again. His features are drawn, his face anxious. At the least noise, he turns his head and beseeches for a little calm. We prescribe an enema of grammes, *jv.*, (about 60 grains) chloral and 12 drops laudanum.

18th June—evening. The day has been calm. The enema was not given till nearly 3 P. M. It has been retained. We are able, by several artifices, (a straw tube in a bottle, covered with willow wicker work) to make the patient swallow a little beef tea, and half a glass of beer; he has eaten several mouthfulls of meat. We offer him cherries, of which he swallows several, but trying to get the pit out of the cherry, caused a slight spasm and fright. M. Féréol

seeing this, stones several cherries for him, and then he swallows without difficulty, excusing himself for the trouble he gave us, and saying that before to-morrow he will have eaten them all.

He says he is perfectly sensible ; that he is cured ; that he has slept a little ; that he shall go to sleep to-night ; that to-morrow there will be no trace of his disease, and he will resume his occupations. Nevertheless, he cannot drink at this moment. He takes, without fear, a glass which we offer, containing a little beer ; he keeps it a long time, but cannot decide to carry it to his lips ; is calm ; prattles of things and men ; raises the glass to his cheek as if to scratch himself ; all this giving him no spasm. But he cannot decide to attempt to drink, and finishes by depositing the glass, saying "this beer is too strong, and what I have already taken has gone to my head."

His pupils are continually much dilated, but on turning them to the light, they contract noticeably. During this conversation, which has been pretty long, and quite calm, the patient appears a little odd and seems rather eccentric ; sucking habitually the stone of a prune, or apricot, or date, saying it has been his custom for a long time, because he is sensible that his saliva is thick and prevents him from drinking. He relates to us that he was a student fourteen years, and that at that epoch of his life he frequently drank to excess, especially of wine. He would drink very often five or six bottles of wine, he says, without any inconvenience, but never absinthe, and rarely brandy. Since then, say twenty years, he has been very sober. He never drinks either wine or liquor. He made himself, in his laboratory, with glycese and hops, but without alcohol, a beer, which he says was his only drink. He assures us that he feels very well and that he sees nothing in his state but a nervous surexcitation, which he attributes to his troubles and annoyances, and disappointments in business and friendship, and of which he will be master in a few days.

He says he has patients whom he is attending, and he has not time to be sick.

He adds that, besides, he has already had an attack analogous to this, but he feels this attack is not so severe as that; that it was about a year ago; that he had been to consult Dr. Potain on this subject, but that he did not follow up the inquiry. We prescribe a second enema like the first.

19th June—morning. The injection has not been retained; sleeplessness absolute.

The patient has gotten up several times and taken his clothes, wishing to go out, but was easily convinced by a man whom we had left to watch him, that he ought to lie down and rest tranquilly.

On entering his room at half-past eight A. M., it is easy to see that his condition is singularly aggravated. At the moment when we open the door, the patient jumped up in surprise, and hid himself behind his bed, crying, "Shut! shut the door." His voice choking, stifling. We heard it break between each word. The least gesture near him seems to put him in confusion. Seeing a red handkerchief which he recognized and which he had used yesterday, puts him in a state of unconquerable terror. He implored us for silence and repose. We ask him if he will take a bath. He turns away with terror and says it will be impossible to-day.

His air is haggard, his physiognomy terrified. The laryngeal spasms have increased in frequency and in intensity; the bile is stuffing him up, he says, and he demands an emetic.

He complains that something has its claws on his throat, and is strangling him; and at the sight of the silver spoon we used yesterday, he recoils with fear and has a spasm. Nevertheless, he insists that we should examine it, and says it will be possible with an iron spoon. With the iron spoon, we press down the tongue without difficulty,

and find the conditions same as yesterday. No sputation. The pupils are still more dilated than on last evening. It is with difficulty that we perceive the iris, forming a circle of extreme tenuity. No cutaneous hyperesthesia, on the contrary, there is an absence of all kinds of pain very pronounced.

It is absolutely impossible to make him take anything; the mere idea causing a spasm and a sensation of unspeakable horror. He has not touched the cherries of last evening, and cannot look at them without fear. The pulse and temperature appear normal; no headache; no localised pain, and only this constriction of the throat, with the idea that he needs an emetic, though he has no nausea, no retching, and not the least cough. We find no more the pleural friction sound which we so plainly heard yesterday. The patient has not been to the water closet. He says he has urinated, but that appears doubtful, as we find no urine, and he has not been seen to urinate. Until the present moment, there has been no furor; only agitation.

Towards 2 o'clock P.M., an attack of fury sets in. He precipitates himself against the doors; he screams out; he complains that he is being strangled, and demands that we bring instantly a priest. At the same time he commences to expectorate. We succeed in getting him to bed, and putting him in a straight-jacket. We inject twice, two thirds grain of chlorhydrate morphine. These injections brought a little repose.

During this fit the patient pronounced no phrase incoherently. He appears to submit blindly to a force which makes him vociferate loudly, and which agitates him, but he is not delirious, scientifically speaking. An instant after giving way to his rage, he asks pardon, excuses himself for all the trouble he has given, assures us he is going to be calm, he will command himself, etc., etc. He is conscious of the gravity of his condition, and asks earnestly that he may

not suffer too much. He wishes us to cover up the mirror of his room, but he cannot bear any longer the sight of a white sheet; and we are obliged to surround the bed with colored curtains.

Towards 9 o'clock P.M., the saliva has returned more abundantly. Each time that he wished to expectorate he warns the attendants not to come near him, as if he had a consciousness that his expectorations would be injurious to them. He again insists upon having an emetic to "clear out the bile which is suffocating him."

Dr. Féréol remarks that very often the sputation is preceded by a special movement. We should say that the effort to vomit was circumscribed by the back part of the throat, without any action of the diaphragm, or any effort of regurgitation. It is in these moments that the patient is agitated the most. He says he wishes to vomit, and asks to be turned on his side, and that we loosen the strings of the "camisole de force," (straight-jacket), so that he can "disembarrass himself of the bile which is choking him to death." He supplicates us in the most humble, and most touching accents, that we take off the straight-jacket which binds him: and invokes with an emphatic exaltation, but not menacingly, the rights of the brotherhood; says he wishes to do harm to nobody; that he knows he is going to die, but he demands instantly that we do not add to his sufferings by keeping him thus bound. Then he speaks of his mother, of whom he is the only support, and upon which he weeps he speaks of his friends, and calls again for the priest. New enema, of morphine 45-100 of a grain.

At 11 o'clock at night, we find the patient very calm, but it is already easy to perceive that he is not conscious of his state. He has urinated in the bed. He hardly recognizes us. His respiration is heavy and slightly stertorous; he expectorates at each instant without trying to avoid the persons around the bed. We are told that he has had a

violent access, during which he has cried, "Thieves! Murder!" Another enema, morphine 30-100 grain. After our visit, he had two more fits; he broke the cords which confined his legs, and struggled violently. The patient did not succumb suddenly, but after having labored for breath for a quarter of an hour, died at 3 o'clock A.M.

Such is the picture, perhaps a little faint, of the disease which was unfolded under our eyes. We will now give such information as we were able to get from several members of his family.

D—— has twice had typhoid fever, once in his youth, and the second time in 1860, (thirty-four years old.) This last sickness was the only one we could confirm, and was very grave. In December last he had the influenza; but, aside from sore throat, which he seems to have had frequently, he enjoyed habitually excellent health. During his long course of study, devoted successively to medicine and to pharmacy, he is said to have imposed upon himself many privations. Without any resources, he paid for his lectures by working as conductor of a locomotive. Since then he has preserved a gloomy and little expansive temper. Most of his relations and friends have described him as a man very calm, and very peaceable; still, one of his friends said he had seen him several times dreadfully angry. Endowed with great energy, he has saved the lives of several persons under diverse circumstances. He was named "Knight de la Legion d'Honneur," for his brilliant conduct during the siege of Paris. The folks around him assured us that, so far from having drinking habits, he led an extremely sober life.

The patient told me. (but he was then already at the beginning of the period of excitement,) that during the fourteen years of his study he drank enormously; but no one has been found to certify to the fact; on the contrary his relations all deny it. They have affirmed, separately, that he never had any attack of acute mania, and that if he had

sometimes a singular and quarrelsome temper, with some oddities such as old bachelors have, never could any of his acts be taxed as folly. We found no trace of mental alienation in his family.

D. told us he had been bitten by a mad bitch. The accident occurred in December, 1871, two and a half years ago. It was long and deep, and thus took a long time to heal. Two other persons were bitten by the same bitch, but our patient was bitten first. The other persons and himself were bitten several times and at several days apart. Our patient cauterized his own and the wounds of the two others, but we do not know if it was done immediately. They did not use the actual cautery, but simply ammonia and nitrate of silver.

The two persons bitten have not felt any ill effects from the bite. The bitch was short haired, small, and of no breed. D. found her in a camp during the siege, and he had such an affection for her that he allowed her to have her puppies on his bed.

See the circumstances under which the bite was given: D. had noticed for several days that his bitch was acting strangely, that she snapped at everything she encountered. His pupil in pharmacy, trying to prevent the bitch from tearing something, the animal rushed at him and tried to bite, upon which D. seized it and attempted to whip it, and thus was bitten on the hand. The beast was shut up in a room with food; she refused to eat or drink for four or five days, and had several fits of rage. She tore everything to pieces in the room; a Voltaire arm chair, a bed spread, etc., etc. At the end of this time D. decided to get rid of the dog, and poisoned her with some drops of hydrocyanic acid mixed in some vitriol.

The autopsy was made by a veterinary surgeon, who declared that the dog died of "rabies canina." They told us besides, that this bitch for some time previous to the biting

of D., had licked constantly with her tongue the only one of her puppies which was left alive.

This puppy, three weeks old at death of mother, showed signs three weeks afterwards analogous to those of his parent. He refused food, springing with furor upon those who approached him. He succeeded in biting one of the persons who had already been bitten by his mother, and in the same place. The new wound was immediately cauterized with ammonia. This puppy died soon after, at the foot of the bed where he was chained. Before death he was also seen by a veterinary surgeon who affirmed that he presented all the signs of rabies. Finally, Madame X. says she has a little bitch who had been bitten by D.'s dog, but who has never shown any rabid symptoms—yet it is proper to add that this dog has long, thick hair, which may account for his not having been infected. She probably was not bitten at all, but only rolled over by the rabid dog. Be that as it may, the accident of December, 1871, had so pre-occupied the mind of our patient, that his disposition had become very sombre. He had frequent discussions with his friends upon the subject of hydrophobia, and endeavored to prove to them that there was no such disease; yet, happening to make the least bit of a scratch on the scar, he immediately cauterized it with ammonia and nitrate of silver; asked to attend one of his nieces who had been made sick through fright from a dog, a lively sentiment of uneasiness was plainly visible in his features.

Since January his character has become soured to such a degree, that it was noticed by those who approached him that he was no longer sociable; his affection for a little niece whom he much cherished, was almost changed to aversion, but it is true that during this time he had had discussions about money matters with his family, and also much family trouble. At the same time he returned to religious ideas, and even to religious practices, for which he had always evinced some aversion. A few days before he came to the hospital, he had

felt general malaise, with lassitude, extreme feebleness and insomnia. The 15th of June he was unusually taciturn. On the evening of the 17th, he wrote to Dr. Demarquay, whose acquaintance he had made in the ambulances (military hospitals) of Paris, begging him to come to see him, because he felt very sick; the next morning writing another, telling the Doctor not to disturb himself as he had decided to enter the Maison de Sante.

So, this morning D. quitted his domicile without letting his family know of his sufferings, pretending he was going a journey of some days, but coming in secret to the Maison de Sante, where he took a private room on the ground floor.

Autopsy.—30 hours after death, in a very warm temperature. Rigor.—Mortis very pronounced; reddish congestion on all the depending parts.

Lungs.—A little emphysema on the surface; on the two apices a few tubercles; from both lungs, which were very large, upon being cut escaped very black blood. The trachea and the larger bronchii were filled with a rose colored froth which completely obstructed the cavity of the vessels; the mucus membrane of the same is also red, whereas that of the smaller bronchii is normal, the ultimate bronchii containing no mucus. No pulmonary oedema. No little ecchymoses in the vicinity of the root of the lung.

Heart.—Is a little large, loaded with fat; both ventricles are full of diffluent black blood. No fibrinous clots or valvular lesions. On the internal face of the aorta we found large ecchymoses.

Stomach.—Is empty. At the level of the cardiac orifice we found upon the mucous membrane little ecchymoses and arborisations very marked. On the superior portion of the cul-de-sac, is an ecchymotic spot of an undefined contour, which is elongated and lies in the middle of a tufted and dark colored arborisation. Several of the replications of the

mucous membrane are the seat of brownish discolorations. The pyloric orifice healthy.

Liver.—Healthy.

Spleen.—Healthy.

Kidneys.—Capsule adherent, though putrefaction was already very pronounced, and the bladder contained no urine.

Brain.—Meninges are adherent and congested superiorly from the horizontal circumference. On the surface of the two lateral ventricles were found several light colored ecchymoses. The brain tissue is perfectly sound. The cerebellum, Pons varolii, and *Medulla oblongata* are all normal.

Spinal Cord.—The dura mater and pia mater, are both congested, principally at the level of the inferior part. The vessels were much congested, and, upon several points we found extravasations of blood. Special hardness of the “cauda equina.” Ecchymoses at the level of emergence of the last intercostal nerves. Upon the posterior and inferior surface we remarked upon the pia mater numbers of small white star-shaped spots, resembling fragments of virgin wax, which were easily displaced under a jet of liquid.

M. Gomband, preparer of specimens in the laboratory of Prof. Charcot, has examined microscopically, the medulla oblongata and cord in a fresh state, but found no lesion. When these organs have become sufficiently hardened we shall examine them and give results.

DISCUSSION.

Summary.—A man of excellent health, non-alcoholic, having no mental alienation either acquired or hereditary, after several days of sadness and general uneasiness, is taken suddenly with hydrophobia; all the signs of rage being manifest; culminating in death in three days.

The autopsy shows the lesions which up to the present time have always been found in cases of death from mad dog bites. Two and a half years before the attack, the pa-

tient was bitten by a dog showing all the symptoms of "rabies canina." The autopsy was made by a veterinaire who declared absolutely that the dog was mad; and besides, this same bitch was nursing a puppy which died also mad, three weeks after its mother.

Such is, in a few words, the statement of fact, upon which we propose to make a diagnosis.

One thing appears without doubt to be settled; viz: the dog which bit D., was mad. The symptoms observed; the communication of the disease to the puppy which she was nursing and which she licked in an unusual manner the day before she became enraged; the death of the little dog with symptoms of rage; and the autopsies; all this leaves no manner of doubt.*

On the other hand, the morbid symptoms observed in the case of D., were absolutely those of the true rage—apyrexia at the beginning, sadness, insomnia, pain in the bitten hand; then the appearance of hydrophobia; the laryngopharyngeal spasms produced at sight of bright objects; at the sole idea of liquids; by the action of trying to drink; by the simple agitation of the air before his face; by the presenting of a bottle of ether; preservation of his intelligence and memory; absence of partial delirium; facial expression of fright during the spasms; marked secret terror betraying it by agitation; by the need to change place, and at the same time by the desire for repose, calm, silence and obscurity.

By the aid of reasoning, and of will power exerted over him, he, submitting to the influence of those around him, who, reassuring him and encouraging him by affecting

* We know that autopsy gives one infallible proof of the rage in the dog—viz: When we find in the stomach, a mass of litter, of wood straw, chaff, horse hair, leather, etc., etc., even a year after death, we can affirm at once that the animal died of the rage. Then we know that the dog of D. did devour a leather fauteuil, a bed spread, etc.

themselves an unconcernedness they did not feel, was induced to eat, however little, and also to drink, by the aid of several artifices, producing thus a relaxation of the symptoms which has been very often noticed on the second day of the *rage*. A little sleep is obtained by the choral enemata, but soon the spasms return; the agitation is augmented without either delirium, fever, or contractions. During these attacks, the patient seems to obey a blind force, which dominates him for several minutes, but as soon as the spasm has passed, he excuses himself, asks pardon, assures us he will be calm, and recover his self-possession. Soon sputa-tion, which so far has been entirely absent, shows itself, appearing with the crises of furor, which augment in frequency and in intensity. In the intervals, the patient is conscious of his approaching end; demands a priest; becomes tender towards his relations; has exalted religious sentiments, and in those concerning his family, without delirium; at the same time imploring us in the most humble and touching accents, to disembarass his limbs from the cords of the straight jacket, and finally, falling into a sort of paralytic coma, he dies three days after the first attack.

Never do we see the symptoms of hydrophobia which are more clear, more complete, or more exempt from all complications. It is the unmixed classical type of *rage*.

I do not believe that any man can suppose here a case of *delirium tremens* under a hydrophobic form. Nothing in the symptoms, the antecedents, nor in the autopsy, authorizes any such hypothesis. Without, however, insisting, I pass on.

There is another form of hydrophobia, very analogous in its symptomatology and its termination, to the *rage virulent*.

It is one form of maniacal delirium, sufficiently rare in the ordinary conditions of our patients, but well known to those who treat cases of mental alienation, and which we

find remarkably described in the excellent work of Brierre de Boismont, which appeared in 1843 in the "Memoires" of the Academy of Medicine, under the title of *acute febrile delirium of alienation*. This paper, which has been very well analyzed by M. Labadie Laysane in the article on HYDROPHOBIA in the *Dictionnaire de Medecine et de Chirurgie Pratiques*, contains, in fact, many observations, wherein hydrophobia is noted and described with great care. The same subject has been treated by Lelut, Baillarger, Calmeil and Thuler, but in all these cases it was discussed as an hydrophobia, entirely special, which I will call *mental* and *voluntary*; whereas, the hydrophobia of the *rage* is entirely instinctive, and suffered by the patient, who wrestles against it, very often with a singular energy.

In the hydrophobia of alienation, there is much of spasm, and of furor; there is also more of anger and of agitation than there is in the real rage; and there is also sputation, but there is nothing which resembles the special spasm of the rage. It is much less the hydrophobia, than the refusal of drinks, which coincides the most often with the refusal of all species of alimentation; on the contrary, the really enraged one taxes his own ingenuity to help those who take care of him, to find some means by which he may drink. Our patient brought different forms of œsophageal bougies for the purpose.

Many patients, in fact, imagine that if they can only drink, they will be cured.

Mental hydrophobia alone is capable of being happily influenced by the deglutition of liquids; the true rage is not at all modified.

It is not unusual to see the enraged ones, by force of will, manage to drink. They are not the less liable to die for that, nor is the disease, the least in the world, retarded by it.

My colleague, at the Maison de Sainté, Dr. Demarquay, has communicated to me a remarkable example.

During the siege of Paris, an old professor, his neighbor and friend, contracted the rage from a little dog who bit him on the lip, and died, enraged, at the house of M. Meunier, veterinary surgeon. The cause of the death of the dog was not told to his master, who, twenty days later, was himself taken with the rage.

"I closed the curtains of the bed," said M. Demarquay, "and tried to make him drink. From nothing but the idea, he was taken with internal convulsions, which seemed to affect the heart and the respiratory passages. After one crisis of these spasms, he managed at last to swallow some beef tea and some wine. During forty-eight hours, I made him swallow, four times a day, a glass of beef tea and of wine and water. The deglutition was always preceded by a crisis of alarming spasms, but, finally, he would drink. At the end of 48 hours, a few seconds after he had drank, he was taken with a violent spasm, during which he died."

But we contrast this hydrophobia (rage) with that of the merely alienated patients, who defend themselves like demons when we try to make them eat or drink; who close the mouth tightly, twisting themselves and striking out all around them; and uttering ferocious cries. There is such a capital difference between the two conditions, that in the chapter *differential diagnosis*, Briere de Boismont mentions meningitis, tetanus, epilepsy, etc., but does not mention *rage*, as if he judged that such a mistake was impossible.

Two years since, when I was physician at the hospital St. Antoine, a very curious case occurred in the service of Doctor Mesnet, who was so good as to ask me to examine it with him. This note is not yet published, but it has been read recently to the Society of Practical Medicine, and will soon appear in the *UNION MEDICALE*, under the title of *Délire aigu hydrophobique*, (acute hydrophobic delirium.)

The patient exhibited all the signs of classic rage: respi-

ratory spasm, special sputation, constriction of the throat, efforts to drink, rapid death, etc.

Nevertheless, at the beginning of his affection, certain signs appertaining to the delirium of persecution or trouble, struck my learned colleague. Dr. Mesnet soon found out that the patient had had several accesses of mental alienation, with attempts at suicide. He was, moreover, a proved drinker; he had already once had symptoms of hydrophobia, and there had been mental alienations among his relations. Then the delirious conceptions increased, and imprinted upon the disease an entirely special type. The patient told us that a woman was the cause of his sickness. This woman was a fortune-teller. He had lived with her for ten years. He left her two weeks since. At this time this woman had great power over him. She shuffled the cards, then suspended in the fire-place a beef's heart, pierced with pins; and so long as it remained thus, the patient would be condemned to suffer. By employment of analogous means, she had already made a man suffer, by making him walk six hundred and seventy-five miles, without stopping or eating.

We see in this case that alienation occupies, in the general picture, a place almost as important as the hydrophobic symptoms, and I comprehend, up to a certain point, that if we depend upon this morbid element, we make of the hydrophobia a symptom of mental alienation. Nevertheless, I shall permit myself to make to my excellent colleague of St. Antoine some observations, not upon the title of his pamphlet, which is unassailable; it is, perhaps, too much so—but he is not specific enough. Unquestionably, the patient died with some delirium, and of hydrophobia. But did M. Mesnet intend to draw his observations as nearly like those of Brierre de Boismont as possible? The reflections which accompany it tend to make us think so. Then, I have re-read the memoir of Brierre de Boismont, and, as I said

before, I cannot find in the special hydrophobia of alienation anything but distant and superficial analogies to the hydrophobia of true rabies. On the contrary, in the case of Dr. Mesnet, it was entirely the respiratory spasm rabies, and all the habitual symptoms of the rabid virus, which we find entirely with the characteristic physiognomy. There is no fever, while it plays an important part in the observations of Brierre de Boismont, who entitles his memoir *Délire aigu febrile des aliénés*, without introducing the word hydrophobia. Finally, it is impossible not to remark in the observations of M. Mesnet that there is absolutely nothing said upon the probability or improbability of a rabid inoculation. In the face of symptoms of rabies, one is led to inquire if there is not a combination of the two affections, rabies and mental alienation? In this hypothesis, rabies should be the initial malady, and pertinently to which condition the mental alienation might set itself up, in a subject predisposed, and would have the appearance of complication. I add that this observation is so different from those of de Boismont, I shall give the preference to this interpretation.

I will say the same thing of an observation gathered by Durante, in the service of our common master, M. le docteur Gueneau de Mussy, (thesis of Gras., Paris, 1860.) There, also, was apyrexia at the beginning, symptoms identical with those of rabies; but the patient had delirium, and committed extravagant acts; he was alcoholic, like the patient of M. Mesnet. We have no certain indications as to his antecedents, as to his mental alienations, and we are ignorant if he did, or not, have any rabid inoculation. There, again, the union of symptoms of the rage, and of mental alienation, to me, appears to implicate a combination of the two morbid elements, and which we do not find thus united in the observations of Boismont.

It is not enough that a hydrophobic patient should have

even systematic delirium to entitle us to declare that his hydrophobia is symptomatic of madness; and I believe that we can often find in the symptomatic characters, and in the evolution of the malady, reasons sufficient to decide the question, which, nevertheless, I confess, may be extremely embarrassing in certain cases. But, in the case of D., there was nothing like this. Neither as an initial malady, nor as a complication, did madness appear. The preservation of his intelligence, and the absence of hallucinations, were noted nearly up to the period of paralysis. We know of no mental alienation in his family. As for himself, he had certainly oddities of character, and the fancies of an old bachelor; but every one agreed in representing him as a man of good sound sense, and of great energy of character; one who, by dint of intelligence and will, had succeeded in rising from the ranks of the workmen, and had, at great pains, obtained his diplomas. There is nothing, either in the past or present, which authorizes us to call the symptoms those of mental alienation, any more than those of alcoholism.

Shall we here agitate the question as to whether we have a nervous hydrophobia? That to me appears impossible, if we take the word in the sense generally taken, as applicable to special nomenclature—of hypochondriacal hydrophobia, which Dr. Brouardel has called *imaginary hydrophobia*, that which we might call *lyssophobia*, if this word had not been badly used by Dr. Bellenger, (thesis, Paris, 1845), to designate the true rage, of which he made, with Bosquillon, a simple nervous affection caused by terror.

In this sense, *imaginary hydrophobia* is an affection not very rare, of which certain examples have become famous, (le President de Trousseau, l'observation de Barbantini, 1817), but this affection is always cured, or at least, almost always. My colleague of the Maison de Santé, Dr. Demarquay, has

communicated to me a very interesting case which I am happy to relate briefly here:—

In 1843, a man with rabies was brought into the service of M. Husson, at the Hospital Hotel Dieu. It was necessary to put him in a straight-jacket; and in this operation a which M. Demarquay, the Directeur, and a volunteer infirm-ary overseer named Guërin, proceeded with much trouble, the patient defended himself, trying to strangle those who held him, and covering their faces with slaver. The next day he died.

Young Guërin, eighteen or nineteen years old, being greatly frightened with the case, asked leave of absence to go home in the country to recruit, thinking he was sick. As he left the Hctel Dieu, he was violently bitten on the leg by a dog who was passing. He re entered quickly the ward. Dr. Demarquay put a constrictor bandage above the bite, which he cauterized deeply with the actual cautery.

Guërin, profoundly troubled, then set out, saying he should return in six weeks to die in the service. Forty days afterwards he came back to die, as he had said. The sight of water and of brilliant objects provoked in him a violent spasm. He could swallow nothing. We were all anxious about this poor lad. All these phenomena lasted forty-eight hours. At the end of this time, as he was still alive, Dr. Demarquay said to him in a spirit of pleasantry: “You have not rabies,” because the other patient died in forty-eight hours; and M. M. Husson, Rastau, and Vigla spoke to him in the same strain. He recovered hope, he drank, and was cured.

It is in these cases of pseudo-rabies that Dr. Barth affirms he has never come across the symptoms described under the name of æreophobia. Now, then, it is impossible to liken the case of D., so rapidly fatal, and so absolutely like the most virulent rage, to those imaginary hydrophobias, which may have some analogies to the virulent hydrophobia, more or less close, but

which differ radically by their termination. Still it can be objected that nervous or imaginary hydrophobia may terminate in death. This I do not deny absolutely, though I do not know of one authentic case. But, in a word, we can conceive that the imagination, over-excited by this train of ideas, may tend to a fatal nervous affection, only that what to me appears so difficult to believe, is, that this nervous affection assumes so absolutely the clinical signs of true rabies that it may be impossible to differentiate them.

In support of my opinion, I find an extremely curious fact published by a veterinary surgeon, M. Deluc, in a paper upon rabies, which he read to the Society of Medicine and Surgery, of Bordeaux, the communication of which I owe to the kindness of Mr. Bonley. This case, I must say, did not receive from me the same interpretation as from the author, M. Deluc, in fact, resuscitates the paradoxes of Bosquillon and of Bellinger, who hold that rabies is an effect of terror, and not of virulent inoculation. His conviction does not go so far, however, as to counsel abstaining from the cautery in cases of bites. But his paper is very interesting from the large number, which he has reported, of bites by dogs evidently mad, without tainting the persons bitten. This is another proof that the rabid contagion has less hold upon man than animals, and it is a fact too consoling not to be noticed in passing. But I come to the observation of M. Deluc, which I wish to analyze :

A young girl was bitten on the knee and licked on the lips by a dog evidently rabid, on the 9th of March, 1868. Thirty-six days afterwards they came to find M. Deluc. *She had had delirium eight days. She had eaten nothing; had horror of drinks, and tried to bite.* "Bite if you will," said M. Deluc, and good-humoredly offered his cheek to her. This gesture, the inspiration of the moment, had its full effect; the patient cheered up, finished by drinking, and recovered, after, however, ten days of sickness. Certainly, in this case, the

patient was in a condition to die. But in what manner will she die? M. Deluc has told us: "Her exaltation would have augmented. Very weak from loss of nourishment, she would have decided to take nothing." That is to say, she would have died of mental alienation, and not of rabies. The hydrophobia of M^{lle}. X., was in the refusal of drinks, complicated with the refusal of food. Her delirium and her menaces to bite, give to her illness the true stamp of mental alienation. The duration of her sickness is not favorable to the hypothesis of rabies. We can not too much admire the cool courage, the conviction, and the excellent inspiration of M. Deluc; but if he flatters himself that he cured a case of rabies, he is mistaken. He has only cured a case of imaginary hydrophobia; and without proof to the contrary, I shall not admit that we can pass from the one affection to the other, nor that a patient having nervous hydrophobia can become affected with rabies, or true hydrophobia. All my clinical observations forbid me to admit that a concurrence of conditions so characteristic as those of rabies, can be sometimes the manifestation of a special virus, and sometimes the result of a simple functional deviation of the organism.

I cannot say whether I have been influenced by the impression I have felt about the unhappy patients I have seen, (this is the fifth); but it seems to me that the cases of true rabies, carry in the highest degree the seal of specific virus; and it also seems to me that nothing in the world, unless from the same cause, is capable of producing in so short a time, effects so formidable, and so identical to that in all these cases. Have we ever seen the neuroses reproduce thus faithfully the effects of a virus? Have we ever seen the syphilitic hypochondria, so tenacious, so deplorable, so overwhelming, terminate in syphilis?

I find moreover, analagous conclusions in a dissertation by Dr. Christian (*Gaz. des hôp.* 1st May, 1869.) For him, as

for myself, nervous hydrophobia is but a variety of hypochondriacal delirium.

This delirium may be calm or furious; it may terminate in death; but we never see established the rabid spasm, properly so called. The hydrophobia which is there produced sometimes, has no similitude with that of the true spasm of rabies.

I do not know for my part any authentic fact which may be contrary to these conclusions.

The note upon hysterical hydrophobia by Burgraeve of Gand (*Gaz. des hôp.*, 23 Sept., 1854), terminating in death, is too incomplete to enable us to affirm that it was in all points like a case of rabid hydrophobia. The phenomenon of sputation is not mentioned.

And in any case, if the symptoms had been absolutely those of rabies, I should conclude it was a true rabid hydrophobia, of the cause of which we are ignorant.

I can say as much of a fact which we find in the thesis of Matton (Strasburg, 1862).

A gardener thirty years old succumbed in forty-eight hours, with all the signs of rabies. As we could after the most minute researches establish that the patient had been bitten, and that on the other side he had experienced very severe chills the day before his attack, we have no hesitation in attributing the rigors to the outbreak of rabies. It is simply noted that the patient had never had any preoccupation particularly upon the subject of rabies, which made the author of the observation, M. Jacquier, entitle it without hesitation "*Rage Spontanée*" (spontaneous hydrophobia).

Nevertheless a fact described in the notes gives us a thought.

At the beginning of his affection he experienced a pretty lively pain in the right arm. It is therefore possible that this member had been the seat of an inoculation which had escaped the notice of the patient, or that he had dis-

guised it, as is not rare with such patients, who always strive against evidence.

Then, to conclude, in the presence of a pretended essential hydrophobia, terminated by death, I will submit this dilemma, viz: either the patient has presented all the signs of rabies, and it is in fact a *true* rabies, of which the cause remains unknown, or, he died with symptoms which were not absolutely those of rabies, and which might be referred to some variety of mental alienation.

Pertinent to this I remark in the history of D., certain circumstances and a little fact which has its importance. It appears certain that following the bite in December, 1871, D. had had his imagination extremely excited; he was unquiet, preoccupied; for a long time watching the cicatrix, and many times wrongfully touching it with lunar caustic, at the same time, whether he knew or not the works of Bosquillon and of Bellenger, he pretended to deny the reality of rabid inoculation, saying that the patients died only of fear. Before us, also, during the first hours at least, and until his reason was vanquished by frightful evidence, he affected a confidence which he did not really possess. He was not willing to appear to attach the slightest importance to his malady, neither to appear the least in the world preoccupied with the cicatrix on his hand. This affectation which has been so many times noticed in these patients, was here well characterized; but this is not all; he told us that a long time back, but could not remember the date, he believed he had felt some symptoms analogous to those he experienced when he decided to enter the *Maison de Santé*; but added he, "They were not so strong."

He at that time consulted a doctor of the hospitals, M. Potain, who had no remembrance of the fact, and after all I believe it was not M. Potain whom he consulted. What significance must we attach to this little fact? For me, I see in some degree a rough draft or sketch of imaginary hy-

drophobia coming in unexpectedly, pertinent to an insignificant malaise; one of those common sore throats to which he told us he had always been very subject.

If imaginary hydrophobia showed itself in our patient D. at all, it ought to have been at this moment. It should have been at a time nearer that of the bite, when he was able to rely on his own judgment at least, under the shock of the incubation.

However, he had nothing, for nobody around him I am assured had any knowledge of the fact; and those who were living intimately with him, have ignored his story of inquietude and his visits to M. Potain.

How can we allow that a nervous hydrophobia, not manifested under these conditions, waited a year or more later, before breaking out; that is to say, at an epoch when the security was greatest, not to say even complete, as in the case of D.? In general, it is one of the most constant characteristics of imaginary hydrophobia, that it appears very near to the time of the cause of it; and without speaking of the characteristics of D., which became a case of true, rabid hydrophobia, the *time* of its appearance does not well agree with the hypothesis of an imaginary hydrophobia.

Now, outside of imaginary hydrophobia, as we are able to define it, and as it is generally defined, there exists a certain number of cases badly defined, which have not yet a well established place in medical science, or which, at the least, only figure there as rare species, of which the classification is not yet well determined.

M. le Docteur Gros has dedicated a special division to these cases, of which there are six, in his Thesis, arranged under two categories. In the first, we find four cases of mortal hydrophobia, developed in subjects who had been bitten by dogs who did not go mad; and in the second, we find two cases of mortal hydrophobia developed in individu-

als who do not appear to have suffered any species of inoculation.

These are not the only cases known to day in science.

I have made an abstract of those which I have been able to find, and which I analyze briefly here. No doubt others exist, but which have escaped me.

(1) *A* — Cases of *Mortal Hydrophobia following the Bite of a Dog not Mad*.

1st. Obs. IX. (Thesis of Gros.) Roziere Journal de Sédillot, 1806: Child, thirteen years; hydrophobia; convulsions; sputation not noticed; death in two days. The child had been whipped the evening before, and was bitten on the cheek thirty or forty days before by a butcher's dog, who did not become afterwards rabid. Symptoms complete. Obs. dubious.

2d. Cases announced by Virey (Acad. de Méd., Feb. 15, 1827).

3d, 4th and 5th. (Acad. de Méd in Arch., Gen. de Méd., 1827, p. 440.) Three cases; one each by Lèveillé, Longet, Villermay, and Marc, briefly reported; mortal hydrophobia in two cases, bitten by non-rabid dogs. The third case of Marc is more than doubtful, because the malady lasted twenty days.

6th. Obs. VIII. (Thesis of Gros.) Communicated by Velpeau (1835) to the Méd. So. of Emulation: Young boy, thirteen years, bitten in the cheek; cicatrix healed in eighteen days; one week later rabies *declared itself*; dead in three days. The dog was not mad, and was killed the evening before the death of the child. Diagnosis of Velpeau. Symptoms not noted.

7th. Obs. X. (Thesis of Gros.) Obs. of Putégnat, of Sunéville, Gaz. hebdom., 8th June, 1860. Child nine and one-half years; all the signs of rabies; dead in three days; had been bitten six weeks before, by a dog who was driven

away with a stick from a house where he was following a rutting bitch. The dog has not become rabid since.

8th. Obs. XI. (Thesis of Gros.) Young man twenty-nine years; died rapidly with all the signs of rabies; had been bitten seven or eight months before by a dog who had not gone mad up to the death of the patient.

9th. Obs. of Decroix. (*Abeille Méd.*, 14th Sept., 1863.) 21st June, 1862.—The dog Tom is bitten by the dog Black. 10th July, 1862.—Tom bit a horse and several dogs, among them Black. 13th July.—Tom died in rabid. 15th May, 1863.—The horse died mad; Black has not been rabid. M. Bouly, in the discussion in the Acad. de Médecine, admitted that Tom must have been bitten by a rabid dog, but not the dog Black.

10th. Obs. of Delpech. (*Gaz. des hôp.*, 1869.) A dog excited by a rutting bitch, who was too small to take him, bit a porter who came to prevent him, and drive away the bitch; also bit a carter, under the same circumstances, and tried to bite his master. They drowned the dog, who showed no signs of rabies. Ninety two days after the bite, the porter died of hydrophobia.

B.—Cases of Mortal Hydrophobia without Probable Innoculation.

1. Obs. XII. (Thesis of Gros *Gaz. des hôp.*, 1858, p. 75.) Soldier thirty years; libidinous and blenorrhagic, spermatorrhæ; rabiform hydrophobia; hallucinations; sputation. Patient retained his reason. Emphysema around the trachea. At the end, hydrophobia diminished. He drank, with difficulty, a pint of wine and water. Coma. Dead in four days.

2. Obs. XIII. Thesis of Gros. (*Gaz. Méd. de l'algerie*, 20th of September, 1868, and *Journal du progrès*, p. 278, Dr. Tisseine, 1856) Soldier of the train; hydrophobia; moderate fever; access of furor; sputation. Dead in three days. Bronchial froth. He denied being bitten.

3. Obs. of Jacquier (*Bulletin de therap.*, 1857, p. 549). Gar-

dener thirty years; all the symptoms of rabies; pain in the right arm; no bite; no belief in hydrophobia. Dr. Jacquie gave his observation the title : *Rage spontanée*.

4. The thesis of Mondville, spontaneous hydrophobia produced by moral causes. *De la rage spontanée produite par des affections morales*, 1821, No. 197, contains six observations, with few details, very doubtful as to symptomatology. Among others, that of a servant girl violated during her menstruation. A fact relative to a young soldier seems much more like the rabies (spasms, sputation, begs that everybody will withdraw when he feels the access coming.)

6. Obs. of Durante (VII du la thèse de Gros.) All the signs of the rabies; signs mixed up with those of mental alienation. No inoculation established.

7. Obs. of Mesnet (*Union Médicale*, 1874.) Same circumstances.

We can, grouping together all these cases, and without touching here even incidentally upon the question of *spontaneous* hydrophobia in man, leave them until we have more ample information upon the action of essential hydrophobia.

It is that which makes M Brouardel, (loc. cit.) apply the name of *imaginary hydrophobia* to all the preceding group.

And now, see the objections that can be brought against my argument.

They say: "Your patient did not die of inoculated rabies; it is out of all possible limits of incubation; and a bite which had run back two and one-half years, was as though it had not been made. That which contributes to prove this, is, that neither of the two persons bitten at the same time had hydrophobia. It was, therefore, death caused by a particular species of imaginary hydrophobia, as are all the deaths of patients who have been bitten by non-rabid dogs, or who have not been bitten at all. To establish that your patient died of virulent rabies after an incubation of two and one-half years, there was

one single proof which you have not furnished. It was to inoculate one or more dogs with the spittle of the patient while he was still living. If the experiment had succeeded, no body could have denied the virulence of the rage; at least, it would have been an argument in favor of the incubation of two and one-half years; and in the absence of this proof, we shall always insist that the patient died of imaginary hydrophobia."

Here is the objection in all its force. At all events I have have not attempted to weaken it. But let us see if it cannot be answered. Firstly: The argument held that the two persons bitten at the same time as our patient, retained their health, is not absolutely good. We know, thank God, that a rabid dog does not make as many inoculations as bites. The administration statistics from Dr. Brouardel (*loc. cit.*), gives, it is true, forty-seven per cent., but our colleague remarks that the greatest part of the cases, not followed by any accident, escape the notice of the administration. The Kingdom of Wurtemberg gives twenty-eight deaths in one hundred and forty-five bites; the General Hospital in Vienna, in 1860, twenty-five in one hundred and fifteen. "In thirty-six persons," says M. Leblanc (*Documents pour servir à l'histoire de la rage*, Paris, 1873), "bitten by rabid dogs who died under my eyes, thirty-one escaped with no symptoms, and five died."

I have already produced the numerous cases of non-contagion, which the paper of M. Deluc contains. In the reply which he made to this paper, Dr. Dupont, (*Soc. de Méd. et de chir, de Bordeaux*, April, 1874), confirmed the statement of M. Deluc, and said he could bring a large number of cases to bear upon the same point. It is nothing, then, out of the ordinary to see two out of the three escape.

I come to the question of incubation. Now, what do we know to-day upon this point? Very little. We ignore absolutely the nature of the rabid virus; how it has spontaneous birth

in certain animal species ; how it acts in organisms which it has penetrated through inoculation. In this regard, our forefathers, or the ancients, were much less affirmative than we are to-day. People have tried to put more precision into this difficult question ; and have clearly eliminated a large number of cases, more or less old women's stories.

The errors of diagnosis so frequent in matters concerning rabies ; the notions recently acquired upon the subject of hydrophobia, viewed as a symptom of alcoholism, of mental alienation, of tetanus, of the grave fevers, of hysteria, of epilepsy, of certain kinds of poisoning, etc., have finished by inspiring a scepticism nearly absolute upon all the past ; so that it is to be feared we have erased cases which appear too exceptional, while we have fixed the extreme limits beyond which the rabid virus should be no more expected. It is generally admitted to-day (report of M. Tardieu to the consulting committee on hygiene, 1860 ; communication of M. Bouley, at the Academy of Sciences, April 4, 1870), that rabies declares itself oftenest in the two months following the inoculation ; three months passed, it is rare ; it is exceptional that six months elapse before it breaks out ; after eight months, according to the opinions of those men who are occupied with the question, and who are the most competent, we find no case which is not susceptible of the strongest objections. Nevertheless, Dr. Brouardel, who, upon this point, agrees with the general opinion, admits, exceptionally, two cases in which the incubation had lasted much longer. In one of the cases it lasted fifteen months, (*Dissez, mém. de méd. milit.*, second series T., XVII., 1856) ; in the other, eighteen months, (Valentin, *Union Med.*, 1856, p. 432.) These two observations appear to my colleague to present the characters of undoubted authenticity.

I have made, in this regard, researches less extensive than I

could have wished, and here are a few cases to add to the preceding ones :

In the *Annals méd. psych.*, 1843, M. Mesnet has had the kindness to indicate to me, on pp. 92 and 132, two observations (one by Aubanal, formerly interne in Paris, now of the Asylum for Mental Alienation in Marseilles; the other, without the author's name, read at the *Soc. de Méd.* of Paris, in which the incubation had lasted eleven and twelve months. These two observations appear to me still more indisputable than those of Dissez or of Valentin. I will say as much of the note of Corriere, interne with M. Huguier, at Beaujon (*Gaz. des hôp.*, 1864, No. 116), where the incubation had lasted eighteen months. The very curious circumstances of the observation and the reflections which accompanied them, are by M. Després, who succeeded then, as Surgeon of the Central Bureau, M. Huguier, at the Beaujon Hospital.

M. Champagnat, in his thesis upon hydrophobia (Paris, 1867), cites, under the authority of John Hunter, an incubation of seventeen months.

M. Deluc (loc. cit.) said he had an authentic case of incubation of one year in a dog.

I am convinced that further researches would discover other analogous cases.

We see, therefore, that, exceptional as they are, these cases are not absolutely rare. Now, I ask: Is not an incubation of eleven, twelve, fifteen, or eighteen months something for us almost inexplicable? From the moment we see that a virus can sleep eighteen months in the system, without any sign of its presence, is it unlikely that the same phenomena could be prolonged six months or one year longer? and where shall we stop?

Nothing, then, in my opinion, demonstrates that rabid virus may not hold itself in abeyance in a contaminated organism to a much more extended time than is admitted

to-day; and there is nothing to prove that I have not the right to record my case with those I have cited.

Without doubt, the best argument I could bring would be a positive inoculation of the saliva of the patient, in which I made default. I had hoped to make this experiment, but time and means both failed. *Occasio præceps*. A few hours after the death of D., a most distinguished veterinary surgeon, M. Weber, who heard of it by accident, came to offer his services, but it was too late.

After all, I do not know whether the experiment would have cut short the discussion.

If the inoculation had succeeded, an objection would have remained, a little common-place, to be sure, but still difficult to answer. It might have been said that the *rage* of D., well and duly recognized as virulent, was due to an inoculation posterior to the bite of December, 1871, of which the patient was unaware, or that he had voluntarily disguised it. As this objection can always be offered, I shall be permitted to remark how little is here offered of probability.

In the long conversation I had with D., he entered into the smallest details of his life, and himself recounted the incidents of the bite of 1871. How can we believe that he kept disguised another bite?

As to an inoculation by licking or lapping, it is not very probable. We are bound to believe that D., who had been so much preoccupied with the events following the bite, would have had reason afterwards to keep all dogs at a respectable distance. All the evidence I have been able to gather convinces me that he had but the one inoculation—that of 1871. Then, in case the experimental inoculation had failed, what conclusion could we come to? Do we know at just what point the most virulent rabies is inoculable from man to the dog? Such trials have often failed.

I will cite among others the note of M. Bergeron, (*arch de méd.*, 1862), where trials were made, with all the care imaginable, and under the best condition to obtain results. The number of positive inoculations was in the minimum. M. Bouley has written "that the saliva of man is virulent, but in a much lesser degree than that of the carnivora."

We see, then, that a negative result would not have been certain proof of the non-virulence of the rage of D.

If this is so, in the actual state of science, seeing the complete ignorance we have of the possible duration of the incubation of rabid virus, and seeing the numerous examples of incubation prolonged from twelve to eighteen months, it appears to me impossible to call *spontaneous*, a hydrophobia completely identical in its form to the *virulent* rabies, and which declares itself two and one-half years after the bite of a dog clearly mad; and I conclude, definitely, for the reality of the incubation.

Though this discussion may be much too prolonged, I will ask permission of the Academy to add a few words upon the symptoms and the pathological anatomy of rabies.

Already, in a first memoir, which runs back to 1859, and which M. Brouardel has done me the honor to quote, at the same time combatting it, I said that the bronchial froth (*écume*) appeared to me to play an important part in the phenomenon of sputation. The fact had forced itself upon me, as I was observing a hydrophobic patient. I was ignorant at that time that it had been discussed and established in an excellent article by Trollet and Villerine, (*Diction. des Sciences Médicales*). Finding it there excellently well described, I was astonished that, in 1859, it had not become current coin in science; so much the more that Bérard and Denonvilliers, in their *Compendium de Chirurgie*, have added the weight of their authority. Since that time, M. Gros has admitted it in his Thesis (1860). In 1869, in the *Société Médicale des Hôpitaux*, I reproduced my

remark, pertinent to an interesting observation on rabies, communicated by M. Millard; and in the following meeting, M. Ernest Besnier brought to us an observation of M. Lagorce-Lavergne, of Lille, who also attributed to the bronchii the principal origin of the rabid froth.

M. Boucher, of Ville-Jossy, also agreed in this opinion.

M. Brouardel still refutes that, to-day, meanwhile relying upon an authority which I highly respect, certainly, that of M. Bergeron. I maintain, nevertheless, my statement; and in the recent cases, as in that of 1859, here is what I have observed, viz: The enraged patient does not secrete saliva, or, but very little, in the first hours; that is admitted by all parties. The mouth is dry; the tongue pasty; the buccal mucous membrane is pale, as far as, and including the soft palate, also the tongue.

Already, at this time we can perceive, at least in certain cases, a redness pretty lively and shining, at the extremity of the pharynx, compared with the paleness of the rest of the mucous membrane.

The conditions remain thus for some time. It is only a few hours before death that sputation appears, and suddenly, the violent attacks of furor break out. So far, he has had nothing but agitation, and that we could control more or less easily by reasoning. From this moment the straight-jacket becomes indispensable. When the patient is about to expectorate, we are notified by a sort of vomitive effort, which is limited to the pharynx, the diaphragm taking no part. It is a kind of regurgitation. Then the patient says he is *strangling*; that *bile suffocates him*; that he must vomit; if he is lying on his back, he begs to be turned on to his side, so that the "*bile will run out*" the more easily. That which we have taken for an effort of deglutition of saliva, is an effort of regurgitation—of expulsion—and it seems to me to be determined by the entrance of the bronchial froth upon the isthmus of the fauces. When the patient feels

that froth is in his mouth, he is taken with spasms, and with chills, and he recoils with horror. The water which he tried to swallow, produced the same effect. I think that this froth ascends slowly, but incessantly, driven, perhaps, by the ciliary epithelium, or, perhaps, by some special spasm of the respiratory passages. While the quantity of it is elsewhere, it is most singular that a few moments before trying to expectorate, the patient's mouth is dry, and he complains that he has not saliva.

I do not pretend to deny that at this very moment the salivary glands may begin to secrete. About this I know nothing.

I have not said that the rabid virus is exclusively contained in the bronchial froth, nor do I now know more about it. I am equally in the dark as to what takes place in the dog. I am content to acknowledge in the human subject, following Trollet and Villermé, the large part which the bronchial froth takes in the phenomenon of sputation. And I believe I am the first to describe the movement of regurgitation, which signalizes the arrival of this froth in the mouth. I believe every body would verify the exactitude of my description, if they could once see this when opportunity afforded.

In accordance with this explanation, in the two autopsies I have made, I found the large bronchi and their divisions filled with a quantity of rose colored froth (*écume*). In the same points the mucous membrane was of a lively red, with little sanguineous effusions; and on the contrary, the buccal mucus membrane is pale and seems normal.

It is very remarkable that in nearly all the autopsies made, we find the apparent integrity of the salivary glands. We find neither redness nor hypersecretion, whilst the bronchial froth, and the redness of the pharynx and of all the air passages are very often noted.

Trollet and Villermé have set out the absolute impossibility of supposing that this bronchial froth proceeds from

Saliva, which goes the wrong way during deglutition. "It is not the saliva which constitutes the frothy slaver; this on the contrary seems to ascend from the chest."

It is truly surprising that, with such a quantity of bronchial froth, and such acknowledged signs of irritation of the mucous membrane, the patients *do not cough*. There is probably present a special kind of bronchial anesthesia, and it is without doubt the absence of the cough which has prevented most authors from attributing to these lesions the importance which they seem to me to merit.

Still the cough does sometimes exist, (obs. de Michel et de Féréol *actes de la Soc. Méd. d'obs.*, 1859,) and in these cases we found signs of bronchitis on auscultation. But we can conceive that it is often difficult to auscultate at the moment when sputation is produced; the patient being too much agitated, and often is in the straight-jacket. But nearly always at the beginning he complains of oppression; a feeling of constriction at the throat, and of weight on the sternum, whilst he never complains of puffiness or swelling, nor of pain either in the parotid or sub-maxillary glands.

It would not be exact, for the rest, to say that the patients succumb to asphyxia, if we take the word in the sense of a mechanical obstruction to respiration.

The lesions which we observe upon the dead body, are much less those of asphyxia than of congestion. The little ecchymoses about the umbilicus of the lung are often absent, and are always very slightly marked.

The patients are not asphyxiated, properly speaking; they fall into a kind of comatose torpor, which we have called the paralytic period, or else they die suddenly. And in either case it seems that it may be by an exhaustion of the nervous influx.

It would not be just any longer to attribute to cutaneous hyperesthesia, the symptom signalized under the name of aërophobia, a symptom to which Dr. Barth attaches consid_

erable value, since he says that he has never seen it established in the imaginary hydrophobias.

Cutaneous hyperesthesia, it is true, has been noted in a large number of cases, among others by M. Bergeron (*arch. de méd.*, 1862).

On the other hand I have established in my patient a very marked anesthesia. The same fact is described in an interesting observation of M. Delpech (*Gaz. des hôp.*, 1869). The patient had cruelly wounded himself on the head wishing to kill himself, and said he did not suffer from it, and that it did him no harm.

We know that analgesia is the rule in rabies in brute animals. In this last we often see animals tear and wound themselves without showing any sign of pain. They feel, however; they recoil when we touch them with red-hot iron, but do not cry, not even when they are rolled or pushed about, at the same time biting sharply. The spasm produced by the agitation of the air seems not to depend so much upon the cutaneous hyperesthesia, which is not established, as upon a special excitation of the respiratory nerves.

The rabid spasm, itself, has in its form something of respiratory complication, which has not escaped any observer, and which distinguishes it absolutely from the hydrophobic spasms due to other causes than the virus of rabies.

The principal symptoms, and the principal lesions of rabies seem, therefore, to cluster round the respiratory functions.

Everything is consistent with this view; and there is in this concordance a powerful argument in favor of the important part which it is necessary to attribute to the bronchial froth, in the pathological history of rabies in man.

Having arrived at the end of this discussion, I will, if the Academy permit, sum up, under the form of propositions:

1. The incubation of rabies is most often limited to the

two first months of inoculation, but can, exceptionally, extend itself much longer, viz: as much as eighteen months, as much as two and a half years.

2. The symptoms of rabies, habitually very uniform, may assume very different aspects under the influence of a number of elements, (mental alienation, alcoholism, hysteria, etc.); but there are certain signs, such as the respiratory spasm, the special mode of sputation, the symptom described under the name of aërophobia, which belong only to rabies and which ought, very often, to permit of a diagnosis under these complications.

3. If imaginary hydrophobia, which is generally cured, can terminate in death, we ought to find in the symptoms sufficient reasons to affirm that it is not veritable rabies.

4. The bronchial écume (froth) plays an important part in the phenomenon of sputation in hydrophobic patients; and the principal symptoms, as well as the principal lesions in rabies in man, are grouped around the respiratory functions.

It is the respiratory character which distinguishes rabid hydrophobia from all other hydrophobias of a *non-virulent* kind.

NOTE BY THE TRANSLATOR.—To avoid repetition, the word rabies, wherever used without qualification, represents the condition of inoculation by the virus of “rabies canina.”

The translator desires, also, to add a case from his friend and confrère, Dr. Maci, as follows: Two brothers in Bordeaux were bitten by a dog supposed to be mad. One brother went to America. After eighteen months, hearing nothing from the brother who remained at Bordeaux, he returned, and found that his brother had died of hydrophobia. He was taken sick at once, and died of hydrophobia. Details not known.

EDITORIAL.

With this, the first number of a new volume, we have a few words to say of ourselves to our numerous readers and subscribers. We have endeavored to present them with a medical journal, which however far it may have come short of the ideal, should aim at least, at being thoroughly scientific and completely original. This has not been the easiest task in the world for us. It would have been far more so for us to have filled our pages with extracts from other periodicals, but this is already done by a sufficient number of our contemporaries, and we have spared our readers the repetition of what in many instances they must already have seen over and over again. But we have had a far greater difficulty than this to contend with. The newspapers, with their increasing, and absurd devotion to the practice of paragraphing, as it is called, have infected to some extent our medical journals, and even tainted the taste of multitudes of readers. We meet every day with assertions that everything must be compressed, that short articles are best, that busy practitioners have not time for long dissertations, and so on.

We beg leave to think that such remarks are both absurd and injurious. Not that we imagine for a moment that an article is valuable because it is long, any more than because it is short. But who can drink to satisfaction merely by repeated sips, or eat by mumbling crumbs? Just as well may one hope to get useful knowledge by having it presented in scraps, and isolated fragments. Reading, as a deliberate action of the mind by which it exercises as well as fills itself, is defeated by such shallow artifices, and the result is a growing disposition on the part of many to become mental pack horses, carrying neat and convenient parcels of knowledge selected and put up for them by others without any ideas as to the relations of part to part, or ability to use the knowledge which they carry about so neatly arranged and labeled.

Neither can we believe, as some say, that all we want is a simple statement of the results that have been attained by scientific inquiry; it is a benefit as well as a pleasure that we follow the methods, and only those who do this to some extent can be much benefited by the results.

We have aimed not only to publish an original journal, but to avoid the paragraphic mania of the times. In doing this we have sacrificed immediate popularity to permanent value, and we ask our friends, and those who approve of our course to help us, by extending the circulation

of the journal. Cannot each subscriber send us another, and so double the number; we earnestly ask them to try. There is another thing which we have spoken of before, and now mention again, viz: that we in common with our editorial brethren have to mourn the indisposition of many talented members of the profession to write. Much that is really valuable is thus lost, while a most excellent means of self-discipline is at the same time neglected.

Surely this is not for want of journals enough to receive all the contributions, nor for want of frequent exhortations from editors. Whatever is unusual in practice, should be recorded in the journals, those great store-houses of facts, for future use and reference, and there is no busy practitioner, however busy, who will not reap a tenfold reward to himself, by contemplating these facts and occurrences with the fixedness and attention best acquired, and generally only acquired by recording them.

We feel sure we need no apology to our readers for presenting them this month with an article on one of the epidemics of the lower animals, and we take great pleasure in calling their attention to Prof. Townshend's excellent paper on Hog Cholera.

Not only economic and humanitarian considerations urge us to a study of the diseases of the inferior animals, but scientific reasons amply confirm the importance of such studies.

If all anatomy and physiology are one in their main facts and principles, so is pathology, and the most unexpected aid has often been derived to the understanding of human diseases from observations upon animals.

Prof. Townshend's modest, scientific and suggestive paper ought to be widely read, and may do great good.

With our opening number of the third volume we ask our friends to help and support us to the extent of their ability, and promise to try hard to deserve their good will, by unrelaxing efforts to make for them a first class journal.

IN our next number, will appear a memoir of Dr. S. D. Turney, of Circleville, Ohio, Professor of Diseases of Women and Children in Starling Medical College, Columbus, Ohio, who died Jan. 22d, 1878, and who was well known to most of our readers, as one of the most skilful and talented physicians of Ohio.

REVIEWS.

The Ear; its Anatomy, Physiology, and Diseases. A Practical Treatise for the use of Medical Students and Practitioners. By CHARLES H. BURNETT, A. M. M. D., Aural Surgeon to the Presbyterian Hospital; Surgeon in charge of the Infirmary for Diseases of the Ear, Philadelphia. With eighty-seven illustrations. Philadelphia: Henry C. Lea. 1877. pp. 615, 8vo.

No work which has appeared since Reosa's *Treatise on the Ear*, is entitled to so much consideration as the book now before us. The author has been known to those interested in this specialty for some time as a most painstaking and trustworthy observer, and it is with no common degree of interest that we have read his book. -

The object of the work is stated, by the author, in the preface, to present clearly and concisely the present aspect of Otology, and to indicate the direction in which further researches should be carried on. He also says, most justly, "that the pathology and therapeutics of the ear cannot be properly understood without a more intimate acquaintance with its anatomy and physiology than is afforded by the ordinary text books."

The work is divided into Part I.—Anatomy and Physiology which is subdivided into three sections, treating respectively of external, middle and internal ear. Part II.—Diseases and treatment, subdivided into eight sections, as follows: Examination of patients; auricle; external auditory canal; membrane tympani; middle ear; diseases of the internal ear, and deaf mutes and partially deaf children. This subdivision of the parts into sections, seems to us a very natural and convenient one, and greatly facilitates reference.

The part devoted to anatomy and physiology comprises one hundred and sixty-two pages, much more space than is commonly accorded to this most important part of the subject, and contains thirty-nine illustrations, which are mostly taken from the German. A careful description of the anatomy of each part is first given, and then its physiology. In speaking of the physiology of the auricle the author gives the results of some experiments of his own, first published in 1873-4, respecting the function of the external ear, especially of the auricle. His first paper was to show that it was a resonator for high notes, and the second was devoted specially to their physical explanation. These experiments were very simple and conclusive, and were controlled by Drs. Buck and Blake. It is worthy of note that the author makes frequent reference to his own re-

searches which have been rather numerous and always characterized by originality and thought. This is the more worthy of mention as so many of our text books are conspicuous by the absence of any originality. Some interesting experiments by Dr. E. Mendel, of the University of Berlin, as to the relative differences between the temperature of the rectum and that of the external ear under physiological and pathological conditions of the general symptom, given by Dr. Burnett, suggest to us the idea whether it would not be worth the while of the general practitioner to make use of them. The observer referred to found the normal temperature of the rectum higher than that of the external auditory canal. But in cases of apoplectiform and epileptiform paralysis, the temperature is higher than in the rectum. Both morphia and chloral, in sleep-producing doses, lower the temperature of the external auditory canal. Dr. Burnett indicates the importance of this knowledge to the aurist, in the fact, as shown by Mendel, that even ice bags fail to reduce the temperature of the external auditory canal as chloral and morphia do.

In Chapter II on the auditory canal, a short account of the development of the temporal bone is given.

Rare peculiarities of conformation are spoken of, and mention is made of the wide auditory canal and large auricle possessed by negroes, and the question raised whether this fact has any connection with the musical talent which is so universally met with in this race.

The author mentions a function of the auditory canal which he says he has observed, which we do not remember to have seen elsewhere, that of causing wax and small foreign bodies to fall out of it.

In Chapter III the anatomy and physiology of the drum-head are well considered. It is observed that whatever the color of the membrana tympani may be said to have, that color must always be modified by the physical conditions caused by stretching a slightly transparent membrane over a darkened cavity. The inclination and curvature of the membrana tympani receive most careful consideration, and the physical laws and conditions which bring about the production of the light spot on it, are well explained. A summary of the important views of Trantman on this subject are given. Some original studies upon the comparative distribution of blood-vessels in the membrana tympani are given, in which the following conclusions are noted:

1. There is a distribution of vessels in the membrana tympani of man peculiar to him.

2. There is a distribution of vessels in the membrana tympani of the dog, the cat, and the rabbit, constant in as well as peculiar to them.

3. A distribution of the blood vessels exists in the membrana tympani of the guinea-pig peculiar to it.

The anatomy of the middle ear receives very careful study especially in relation to the ossicula, careful measurements of their dimensions being given from the papers of Urbantschitsch, and of their weight by Blake. The topographical relations of the stapedius and tensor tympani muscle are also carefully studied.

In the physiology of the middle ear the author calls attention to all important recent investigations. Among the most important of which are the physiological nature of certain tympanic bands heretofore considered pathological, and the function of the round window and its membrane.

A full explanation of the functions of the round window are entered into, and an account is given of the method of examination used by the author and others, as well as of Weber-Liels experiments on the same subject. These experiments seem to prove that the membrane of the round window may be set in vibration by sound-waves from the membrana-tympani conveyed through the air of the tympanic cavity.

The Eustachian tube and mastoid portion of the middle ear are treated of in a separate chapter—both as to their anatomy and physiology, with much thoroughness and in a most interesting manner. The section devoted to a consideration of the internal ear, contains a full account of the anatomy of the labyrinth and auditory nerve as well as a good resume of the experimental work which has been done in elucidating the physiology of the semi-circular canals. We have occupied so much space already with this part of the work that we will not delay to comment further upon these interesting topics, but urgently recommend a careful study of this too much neglected part of otology which Dr. Burnett has made so accessible to all.

We have now to speak of the second part of the work, which considers diseases and their treatment. This section begins with a chapter on the examination of patients, a description of instruments and the method of using them.

The precaution which Dr. Burnett suggests that each patient should have an Eustachian catheter for himself, is, undoubtedly, a safe one. And yet, it seems to us unnecessary if the instrument be properly cleansed after each usage. That specific poison may be thus communicated, if due regard to cleanliness is not observed, may be true in some very rare cases, but from very long opportunity for observation, especially in dispensary practice, we have yet to recall a single instance in which it has happened. To have an instrument for each patient becomes expensive in private practice, and from the number treated in dispensary practice next to impossible, unless the expense be defrayed by the patient. Respecting the method of inflation during phonation, instead of swallowing, as lately suggested by Professors Luca and Gruber, the author says, that while he has suc-

ceeded in inflating the ear by following their suggestions, he is equally sure that it is neither as powerful, nor as certain, as Politzer's method. In very young and intractable children, who cannot or will not swallow, but do cry, Politzer's method is invaluable, for, as he taught long ago, the more the child cries, the more firmly does it lift up the velum palati and favor the attempts at inflation of the tympanum.

In the chapter on sound, hearing, and tests of the latter, sound and hearing are defined, and physiological acoustics briefly considered. The system of indicating musical notes by letters, is explained, and to facilitate the recording of the hearing in examination of the ear, Helmholtz's table of musical notes, whereby the position of a note in the scale, and hence, the number of its vibrations in a second, are given. A good description of the "deaf-points" of Urbantschitsch, as well as of the deaf-fields or triangles is given. These are explained by Berthold as entirely unconnected with the physiology of the ear, but entirely due to the interference of the tuning-fork.

The very interesting experiments of Nussbaumer, relating to subjective perception of color, produced by objective perception of the sound, are described.

The value of the tuning-fork in diagnosis, is considered with care, and Dr. Blake's experiments with a view of ascertaining the power of the ear to perceive high musical notes, as well as the acoustic character of vowels and consonants are fully discussed.

Section II begins the study of diseases, by first considering the organic defects of the auricle, and then its diseases. Besides the usual forms of disease of the auricle to be found in most text-books, a very good description is given of tubercular syphiloderma. The morbid growths and injuries of the auricle are considered in a special chapter. Angioma of the auricle is referred to, and the same affection of the lobule stated to have been but once observed, by Dr. C. J. Kipp, of Newark, New Jersey. The two varieties of othæmatoma or blood tumor of the ear, are very accurately described. In speaking of the method of remedying the deformity produced by traumatic cleft of the lobule, the author recommends the operation advised by Knapp, and introduces the fig, accompanying his description of the method.

Circumscribed and diffuse inflammation of the external auditory canal are next treated of. Dr. Burnett recommends, to relieve the pain in circumscribed and diffuse inflammation, the instillation of Majendies solution into the ear. He states that it is well borne even by children, and that not enough is absorbed to produce any alarming symptoms. To destroy the buttons of granulation which sometimes appear in the canal, he

strongly recommends the use of monochloro-acetic acid, which he has also found useful in polypi of the middle ear, after removal, to prevent their recurrence. Dr. Burnett dissents from the view entertained by many authorities in this country that thorough and frequent syringing the ear with warm water is sufficient to destroy vegetable parasites (*aspergillus*) in which opinion we fully concur. He recommends hypo-chlorate of lime as the best and most soothing parasiticide.

In the chapter on foreign bodies, in addition to the usual forms of obstruction of the auditory canal, we have a careful description of Wreden's so-called *keratosis obturans*, which disease consists in the accumulation of masses of horny epithelial scales, derived from the cutis of the external auditory canal, of gradual accretion, causing great deafness, and very obstinate in its resistance to removal. In the chapter on the results of inflammation and injury, Dr. Burnett calls attention to cholesteatomatous tumors in the auditory canal, or, as they are sometimes called, pearly tumors. They do not seem to be common in this country, and the only account of such a case is by Dr. Kipp, in both ears of a man twenty-seven years old. The cholesteatomatous masses are usually found in ears which have long been the seat of chronic suppuration, but in which, the latter process has apparently run its course.

Dr. Burnett differs from most authors on aural surgery by recognizing an acute myringitis, while admitting that anatomically, it is not easy to describe such a condition, without disease of the middle or external ear. In many cases, it may be of great clinical convenience to speak of an inflammation of the drum-head.

Section V treats of diseases of the middle ear. In enumerating the symptoms of acute inflammation of the middle ear, the author accepts as the most likely explanation of the tinnitus "the vascular theory" of Theobald, in which the subjective sensation are not considered imaginary, but a real existence; and, therefore, tinnitus aurium has a real existence, being due to morbid vibrations produced in the vessels of the inner ear, and then communicated to the nerve, but when there is no increase of pressure in the labyrinth the noises may be accounted for by some defect in the sound conducting apparatus. Especial stress is laid upon the importance of acute inflammation of the middle ear in young children, both as to diagnosis and treatment. The author very truly remarks that this disease "is too commonly overlooked in them, partly on account of the difficulty of examining young and suffering infants, and partly on account of their inability to locate their pain and communicate their feeling to others." It might be added too that the nature of the disease is mistaken, because of the inability of many practitioners to make a proper physical examination

of the ear. It would be well for such to read Dr. Burnett's comments on this subject with care.

The important subject of chronic catarrhal inflammation receives the very careful consideration which its great importance and frequent occurrence deserves.

The diverse nomenclature given it by different authors is justly criticised as not having any practical utility. Hence, the number of names applied to this disease, such as "nervous deafness," "hyphertrophic," and proliferous inflammation, "sclerosis," and "chronic thickening of the mucous membrane of tympanum," etc., are rejected, because no one of them admits of universal application.

Chronic catarrh seems to the author the only universally applicable name. It is comprehensive, and surely serves to denominate the essential nature of the disease. He makes the distinction, however, of two chief forms, (a) the secretory or moist, and (b) the asecretory or dry form. An entire chapter is taken up with a minute account of the subjective and objective symptoms of the disease, which shows not only a thorough knowledge of the labors of others, but that the writer has also given the symptomatology of the disease a careful, personal study.

Another chapter is devoted to a consideration of the methods of treatment. A sharp distinction is to be made at the outset of the particular form of the disease, whether moist, or dry. We have read the chapter with care, and wish we could say that we have found anything new or more promising in the treatment of this discouraging disease, but alas we do not! Dr. Burnett favors the now pretty generally abandoned use of the nasal douche. He does not believe it so dangerous as it has been stated to be by many aurists, if used with proper precautions, and gives some additional rules of precaution to be observed.

The operation of removing the tonsils is regarded as only rarely necessary for the relief of deafness, for the latter is independent of their enlargement, and when they are removed they are often succeeded by an hypertrophy of the parts much larger than the tonsils.

Injections into the tympanic cavity are not regarded with favor. And this, we think, from our own experience, is sound. The author says few applications which are aimed at this cavity ever reach it, and if they did, would probably do more harm than good.

An account of the literature of the operations upon the drum-head are given; and also the investigations of Bruner respecting the effects of electric currents upon the organ of hearing. A chapter is introduced for the consideration of unusual diseases of the middle ear. Some interesting observations relating to objective snapping noises in the ear, are given in this chapter with a number of references to various observations which

have been published on this subject. Primary cancer of the middle ear is a very rare disease. Dr. Burnett refers to all those which have been published. Acute and chronic purulent inflammation of the middle ear are considered in two chapters. The remarks upon treatment of acute inflammation are particularly worthy of commendation. The whole affair is summed up by the author himself when he says: "But simplicity of treatment, added to a careful and thorough diagnosis, are the best means with which to combat acute disease in the ear, as elsewhere."

It seems to us that an important point is made by the author, in regard to the way in which perforations in the drum-head sometimes close, by the formation of a kind of scab over the hole, then by true cicatricial tissue. The former falls off, leaving the latter as a permanent closure. He calls attention to the importance of favoring such a scabbing process, and the importance of letting them alone when they have closed the perforation in the membrana tympani. In the enumeration of the remedies to be used in checking the chronic discharge, zinc, silver, and alum are mentioned as the three most reliable ones. Nitrate of silver is useless, except in very strong solutions.

The course and consequences of unchecked chronic discharge are considered in a special chapter.

Those physicians who advocate letting alone such a purulent discharge from the ear should read the list of evils to which it tends to the production of, given by Burnett. 1. "Permanent hardness of hearing and deafness. 2. Epileptiform and other nervous manifestations. 3. Granulations and polypi in the ear. 4. Ulceration of the mucous membrane of the tympanic cavity, periostitis, otitis; caries and necrosis of any or all parts of the temporal bones and portions of adjacent bones; inflammation of the meninges and sinuses of the brain; embolism, cerebral abscess, pyæmia, and death." Will any physician, with this list staring him in the face, say to the parents who bring him a child with otorrhœa, it is nothing—he will out-grow it.

In this chapter the indications for incising the periosteum over the mastoid region, and for trephining the mastoid process, are clearly elucidated, and at the end of the chapter we have a valuable bibliography of the fatal cases from 1864 to 1876.

In the next section primary and secondary inflammations of the middle ear are studied in the first chapter, and morbid growths of the auditory in the second.

The latter chapter is a very interesting one, and besides a reference to the cases and observations of others, contains a very interesting and exceedingly well reported case observed by the author, of sarcoma of both auditory nerves, with the result of the autopsy and a microscopical examination of both cochlea.

The last section contains a brief account of the methods of relief and education of deaf mutes and partially deaf children.

Dr. Burnett's book certainly deserves very high praise. It is the work of "a workman who needeth not to be ashamed." His style is clear and concise, without sacrificing anything to thoroughness. The tedious and frequent introduction of cases is avoided; those which are introduced always fit well in the text and serve a useful part in illustration and interest.

One of the most meritorious features in the book, however, is the case which has been given to the scientific part of the work, and the frequent evidence of originality of study and research.

The illustrations are good, and the general appearance of the book, like most of the work done by this publisher, is excellent.

1. *Materia Medica*, for the use of students, by John B. Biddle, M.D., Prof. of Materia Medica, etc., in Jefferson Medical College. Eighth edition revised and enlarged, Philadelphia, 1878. Lindsay and Blakiston. \$4.00

2. *The Action of Medicines*, by Isaac Ott, M.D., formerly Demonstrator of Experimental Physiology, University of Pennsylvania, Philadelphia, 1878. Lindsay and Blakiston.

3. *A Guide to Therapeutics and Materia Medica*, by Robert Farquharson, M.D., (Edin.) Lecturer on Materia Medica at St. Mary's Hospital. Enlarged and adapted to the United States Pharmacopeia by Frank Woodbury, M.D., Philadelphia, 1877. Henry C. Lea.

4. *Modern Medical Therapeutics*, a compendium of recent formulæ, etc., by Geo. H. Napheys, A.M., M.D., and a companion volume.

5. *Modern Surgical Therapeutics*, a compendium of current formulæ, etc., by the same author, Philadelphia, 1878. D. G. Brinton, each cloth. 8vo. \$4.00.

The above works, recently issued, are individually and collectively of great interest. Though published within a few months of each other, from the same city and upon the same subject, they are as dissimilar as the four quarters of the globe. At the first glance, chaos seems to have come again, if indeed it has ever uplifted its brooding wings from the realms of therapeutics. A closer survey, however, shows that their diversities are those of standpoint rather than of fact, and reminds us that there are several methods of treating disease now on trial, which are based upon three distinct theories. These are, first, the empirical or clinical plan; secondly, the physiological plan; and thirdly, a method which may provisionally be called the lay practice. In the first, the effect of a remedy and its uses are judged by the clinical experience of the profession. It indulges in no theories, being severely utilitarian. It asks no questions as to the *modus operandi*, but is simply content to know that those afflicted with certain diseases recover under certain remedies, and that the various secretions are particularly influenced by a particula

agent. Concerning many drugs this is for the present final. It is believed *semper, ubique et omnibus*, that castor oil in a given dose, purges. There may be opinions more or less valuable as to its manner of purgation, but no definite information beyond the bare fact. Quinine is in like manner universally admitted to cure agues. But the catholicity of the empirical system is sadly limited. Rheumatism is cured by everything and nothing. There is scarcely a disease for which some one has not a specific, which unfortunately is not as efficacious in other hands. This method is, in great part, the foundation of the regular practice of medicine, being a true eclecticism, appropriating whatever any one has found to be of value. Its utility is bounded only by the degree of that experience on which it relies. Borellus, for example, sets forth that sterility could be cured by a chaplet of wild horse mint worn *in loco*, but his experience was manifestly insufficient. The errors of the clinical plan are indeed largely of the past. The destinies of cundurango and sarsaparilla have been happily contrasted. The latter descends to us with many traditions of the elders concerning its alterative properties, having come into use gradually and largely by oral tradition. It has been weighed and found wanting by each one individually, while its virtues are still a record to beguile others. The former was announced in the days of steam, and journalism, and telegraphy. It was tried simultaneously throughout the world, and as promptly rejected. Had it come upon the stage a hundred years ago, there would have been text-books still extant, recording the cure of the eminent mother-in-law, and saying nothing of the speedy return of her cancer.

The second or physiological method goes further and is more exacting. It inquires of every drug what manner of disturbance it is capable of exciting if admitted to the body. Has it a special action on the muscular, or arterial, or the nervous system? Does it contract or dilate capillaries, stimulate or benumb nerve centers, and so on? Before one can ask these questions, they must know thoroughly the natural workings of the human mechanism, and hence the physiological system finds its advocates among the better educated of the profession. Further, if a drug has been found clinically useful in any disease, this method endeavors to find out why it has been of service, and by such researches it happens sometimes that the nature of the disease and its cure are alike demonstrated, and in a wider sense than its author knew of *Morbum curationes ostendunt*.

This plan of inquiry is of modern origin. It was born with this century in the midst of bastard systems which for the most part live at a poor dying rate while this one waxes strong. Of those which saw the light about the same time the most formidable was, and is, Homœopathy, and because of its very likeness to the truth. The system of provings if complete and compared with tests upon animals is much the same. But

although its resemblance to truth deceives the very elect; like the beast in the vision its wonders are lying wonders. There is some difference between the results of a well conducted physiological experiment and Hahnemann's insane twaddle of ascribing "much thirst for beer" to an infinitesimal dose of petroleum taken weeks before, (and this too in a German). The physiological method has found out for us many things, and is indeed, the road to progress. It has many difficulties to encounter, not only in the nature of its researches, but in making a beginning. To prosecute the study of the action of medicines requires the conjunction of two things rarely associated: subjectively, acute perceptions and accurate judgment; objectively, ample time and means to carry out the designs; in a word, brains and money in the same individual. Again, there is a *vis a tergo*, a stab in the back, to be averted. The Woman's Branch of the Society for the Prevention of Cruelty to Animals, "with malice aforethought, and instigated by the devil," are always upon the alert to prosecute penally the prosecutor of scientific investigations. Neither do all of the profession take to it kindly because it requires some study, which many avoid as causing weariness of the flesh. Between the clinical and physiological systems there is no quarrel, but on the contrary, they bear each other's burdens and supply each other's deficiencies. Neither is the latter complete enough to stand alone. It is but a hand heard of Hygeia and not the goddess herself.

The third method is the one in vogue among the laity, though with little attention adopted by many physicians. The laity promulgate it through ignorance, the innate quack finds it in a more respectable "lay", than burglary and pocket picking. Let us ring up the curtain for a minute and see what it is like.

SCENE I. A boudoir. Motto framed upon the wall (or should be) from St. Paul—"And withal they learn to be idle, wandering about from house to house; and not only idle, but tattlers also, and busybodies, speaking things which they ought not." On a lounge Mrs. A., *en deshabille*. Seated, Mrs. B., *en promenade*.

Mrs. B., (*loquiter*).—"Why, my dear, how awfully you are looking!"

Mrs. A. (*volubly*).—"Oh, you don't know what terribly excruciating pains I have in my back, and I have n't slept night or day for weeks, and Mrs. C. was saying only the other day that she did not see how I could bear up, but it is so dreadful, you know, to be an invalid, that I can't really make up my mind to be sick."

Mrs. B.—"Oh, my dear, how foolish to let it run on so, and besides there's nothing going on next week, and you might just as well take time to be cured. Stop, here's just the thing; I have it in my pocket. A pre-

scription by Dr. G. I got it from Mrs. E., and you know how dreadfully she suffered, poor woman, from hm. hm. hm."

Mrs. A. (*musingly*.)—"Do you think I have the same thing, my love?"

Mrs. B.—"There's no doubt of it. Same symptoms, precisely. And then you know if it don't do you any good you can call on Dr. G., lovely man, isn't he, and ask him why it didn't help you." (*Exeunt omnes*, as far as the door-step, for a long farewell.)

SCENE II. *A drug store.* The clerk, *æt.* 16, alone, looking over the prescription files. Enter Dr. Corvus, rather seedy.

Dr. C.—"How's business? Slow? Did you get that prescription of mine for cotton-root and tansy?"

Clerk.—"No, guess it went across the way. Sit down. Here's one we sell lots of." (*Reads*):

No. 1067—*R.* Acidi Arseniosi.
Strychniæ Sulphatis *aa*, gr. 1-35.
Extracti Beleeaddonæ, gr. 1-5.
Cinchonæ Sulphatis, gr. jss.
Pilulæ Ferri Carbonatis gr. ijss.
Acaciæ,
Syrupi *aa*, v. s.

M. For one pill.

Dr. C.—"What's it for?"

Clerk.—"Damfino. Brought in generally by high-toned women. They hand it around among themselves. Just put some up for Mrs. A."

Dr. C.—"Ha! I see, 'constitutional uterine disease.' I'll take a note of it. What is that other long one?"

Clerk.—(*Reads*):

No 778. Magnesiæ Sulphatis, 3vj.
Magnesiæ Carbonatis, 3jss.
Vini Alces, f3vj.
Tinctura Humuli, f3ij.
Acidi Hydrocyanici diluti M, xv.
Infusi Cascarillæ, f3vij.

M. A tablespoonful thrice daily.

Dr. C.—"Who brings in that one?"

Clerk.—"Preachers, mostly, and editors."

Dr. C.—"It must be for dyspepsia. I'll take a note of it, too. It's written by a man of great reputation. (*Clerk retires to wait upon a customer.*) A thought strikes me. Here are many prescriptions, written by all kinds of doctors. I will collect them; label one 'for pleurisy,' another 'for worms.' If carried out to any extent one might write quite a book.

Think of all the drug stores in the United States. Ha! ha! in the world! Eureka!'"

SCENE III. An undertaker's private residence. The family at tea. Room furnished in Eastlake style—great luxury evident on all sides.

Mater familias.—"Hubby, what did Mrs. A. die of?"

Pater familias.—"Pneumonia, the doctor said."

Mater.—"I wonder if he knew what was the matter?"

Pater.—"I'm sure I don't know, but she must have been treated properly for the doctor told me she was taking Prof. D's. prescription for pneumonia all the time she was sick."

Mater.—"I think he might have sense enough to write one of his own."

Peter.—"Pshaw, Maria, don't quarrel with your bread and butter!"

(Curtain falls.)

The drama from which these scenes are taken is one which is enacted every day. It suggests the need of some advance in intellectual development in those who take drugs as well as in those who prescribe them. The profession is crowded and cursed with many men who are incapable of either accurate diagnosis or scientific treatment, but if some one will tell them, or they can guess what ailment the patient labors under, they turn to its title in a book of formulæ, and prescribe accordingly. Polypharmacy or "shot-gun" prescribing is their delight. This was allowable in the twilight of medical art. Our ancestors brewed many draughts not unlike the contents of the witches' caldron. It is time for this to pass away, and for a rational giving of drugs to take its place—when one shall consider not the reputation of him who first recommended the remedy, and the state of the moon and planets when it was compounded, but the state of the patient, and the ability of the drug to change it in any way, with the reasons therefor, if attainable. The first or clinical method is well represented in this group of books. Biddle's *Materia Medica* is a classical work now in its eighth edition. It contains nothing new or original, being simply an abridgment of the United States Dispensatory, but it is a most useful abridgment, leaving out much rubbish, and bringing the necessary information within small compass, and reasonable price. For these reasons it has always been a popular text-book, and always will be, since its facts are not subject to much change except to be added to. Since one does not gather figs from thistles, so we must always turn to the papaver for opium, and to the *strychnos* for nux vomica, as therein described. So also, castor oil, ipecac, and cantharis will purge, sweat, and blister in *seculum seculorum*, in the doses or preparations therein set forth. And no one can describe all this more succinctly or plainly than its general author. Long may he revise and enlarge it as novelties call for the process.

The second book, by Dr. Isaac Ott, is an equally good exponent of the physiological method. Although an abridgment to some extent of larger works, like the preceding, it contains the record of much original work beside. It has also a novel feature in that, it takes us behind the scenes and shows us the physiologist at work; sometimes with startling effect, as when he remarks (p. 61), "Here you take a cat," etc., from which we beg to be excused. Not satisfied with this, on the next leaf he generously raises his previous offer to, "Here take two cats." Never! Verbal eccentricities are, however, of slight moment. The book puts any bright student in the way of continuing investigations on the action of medicines, showing him what is needed in the way of apparatus and pointing out the proper lines of research. It gives in detail the action, both on animals and man, of the principal drugs, which enables the reader to know rather than guess at what he is doing in prescribing them. As a necessary result, perhaps, of brevity, some things are omitted which one would like to have seen elucidated; for instance, the effect of the bromide of potassa upon the cerebral circulation. It is stated, however, to produce a drowsy feeling with diminution of arterial tension; and, therefore, may be inferred to diminish the amount of blood in the brain as is usually supposed. The statement, on page 148, that morphia has no effect upon pigeons, ducks, and chickens, is not true, but they require very large doses comparatively, as was shown in some experiments of Dr. S. Weir Mitchell, published in the *American Journal of the Medical Sciences*, in 1869. A useful addition for the investigator is a bibliography attached to each drug of importance. It is only intended for people who think; and is, therefore, "caviar to the general." If there were no way of learning the use of electricity than by study of such jargon as "*anelectrotonus*" and "*katelectrotonus*," we would say, happily so. Nevertheless, every advanced student should have a copy and study it. It will do good in proportion to its circulation. The Women's Branch of the Society for the Prevention of Cruelty to Animal will regard it with speechless horror, but good men and angels will rejoice in it as an evidence of progress.

3. Dr. Farquharson's book is an attempt to wed the clinical and physiological, and also to confine them within narrow limits. As stated by himself, his aim is "to present the subject in briefer compass, in perhaps, more systematic form and unencumbered by any botanical or pharmaceutical details." The systematic form is secured by arranging in opposite columns the physiological and therapeutical uses of the principal drugs. As for the rest, the book has met with an accident. It has been "adapted to the wants of the American student" by adding botanical details and various suggestions of the translator. Why it should be necessary to translate English books into American is not evident to inferior intellects.

It is nearly time to discourage piracy in literature by refraining from the purchase of stolen goods. If we cannot have an international copyright law, we may, at least, have a public opinion as strong as law; and it is the duty of every one who recognizes the injustice of this practice to avoid becoming accessory after the fact. Otherwise, the book can be recommended as a useful compendium, not as valuable as the joint possession of the two preceding books, but entitled to a place in literature.

Would that one could stop here, but "Modern Therapeutics," No. 4, demand a notice. They may be briefly classified as irredeemably vicious in tendency and an embodiment of the lay system of practice. They are a mere compilation of formula, the fruit of ransacked prescription files. Any drug clerk may be an author of this kind. Some of the formulæ are obtained from the writings of physicians. But when did Dr. Da Costa, for instance, ever authorize the statement that suppositories of the extract of opium and acetate of lead were "good for consumption?" Because a physician finds occasion to give a remedy to control a temporary symptom in a given patient, must he be heralded as recommending it in all cases of the disease? Yes, if Dr. Corvus by any chance gets hold of the prescription, that being the basis of these remarkable books. Unfortunately, the victims of this practice have no redress. Where the formula is published and acknowledged by the original prescriber, one need waste no sympathy, the practice is much the same; and they appear to be proud of their elaborate compounds. There are enough of such recommenders of polypharmacy to make a very large volume, leaving out of view those whose prescriptions have been mysteriously obtained, but, of course, honestly. The former are bold in their own defense. Here is richness:

No. 443—R. Extracti Ergotæ fluidi, f3ij.

Tincturæ Digitalis, f3ij.

Acidi Gallici, 3j.

Magnesi Sulphatis, 3v.

Acidi Sulphurici diluti, f3j.

Infusi Rosæ compositæ, f3vj.

M. Two tablespoonfuls every three hours, until the hemorrhage is arrested.

"In spite of the fashionable outcry against complicated prescriptions, Dr. Dobell recommends the above as the most rational combination of remedies for a case of *profuse* tubercular pulmonary hemorrhage."

* * * "The object of the ergot is to contract the vessels; of the digitalis to steady the heart; of the gallic acid to clot the blood; of the Epsom salts to relieve the congestion; and of the dilute sulphuric acid to assist the rest." This might be called the burlesque physiological method. Every drug is carefully assigned its station, except the numerous ingredi-

ents of the compound rose infusion; and none are unduly complimented, although digitalis is the only one present in sufficient amount to have much effect. *Per contra*, a single remedy sometimes gets undeserved praise, for example: "Colchicum is recommended in acute stages of gouty bronchitis, by Dr. Greenhow, who gives the following with great success:"

R. Potassii Iodidi.
 Ammoni Carbonatis, *a a*, gr. iv.
 Vini Colchici. min. x
 Tincturæ Scillæ.
 Tincturæ Hyoscyami, *a a*, min. x x.
 Aquæ Camphoræ, q. s.

M. Make a draught to be taken thrice daily.

An intolerable amount of sack for a pennyworth of bread. And the q. s., what shall suffice? But it is not fair to criticise individual prescriptions, because they happen to be waylaid in these books. On page 33 of the Surgical Therapeutics is a statement which gives in epitome the essence of this method of practice. "Digitalis in large doses, used at the commencement of acute inflammations is said often to cut them short

* * Used as a depressant, Prof. S. D. Gross says he has lost confidence in it." Such losses of confidence (let us hope it was not mutual) are hardly as valuable guides to practice as the direct observation of the physiological worker. On this very point we may contrast an analogous statement in Dr. Ott's work (p. 110), where it is recorded that Dr. J. M. Murray "found that after the administration of digitalis you can administer ten times the lethal dose of aconite and then you are unable to completely arrest the heart." This is more definite than the foregoing specimen of medical Jenkinism. In the article on epilepsy, fifty-three drugs are mentioned, after which the emetics, sedatives, and stimulants are suggested. Then follows ten external remedies. This is evidently the doctor who could cure anything if he could first throw the patient into fits. The owner of these books is also armed cap-a-pie against asthma, for which fifty-one remedies are suggested, with cold bathing thrown in. Then follows a list of external remedies, from which we infer that the bathing is to be inwardly applied. In fact we read, "simple sponging the body is preferred by some to immersion"—and from this it is but a step to inward affusion. Phthisis has only a beggarly array of forty-seven remedies for the general condition, but then each symptom has a separate list of cures; thus, the vomiting is cured by *nux vomica*, the anemia by the iodide iron, and so on *ad nauseam*. In pathology the author is superb.

Thus, in phthisis, under the head of tannic acid, we read, "the value of such an influence should not be underrated, for it is in the highest degree probable that the extension of tuberculous deposits is preceded by a congested state of the pulmonary parenchyma, and that by restoring the latter we may prevent the former"—naturally. In the article on paralysis we learn that "leeches at the verge of the arms are beneficial, where there is suppression of a habitual discharge, as from piles." Piles of what? Of paralysis? It is, however, needless to expatiate further on this topic. The "modern therapeutics" are so only in name—but those who know only a little physic will buy them eagerly and flourish the formulæ of great physicians in the face of disease in spite of all that can be said. And 'the human race will get along very well no matter how it is physicked 'Sir," replied Dr. Slop, "it would astonish you to know what improvements we have made of late years in all branches of obstetrical knowledge, but particularly in that one single point of the safe and expeditious extraction of the fœtus, which has received such lights, that for my part (holding up his hands) I declare, I wonder how the world has—" "I wish," quoth my Uncle Toby, "you had seen what prodigious armies we had in Flanders."

The Science and art of Surgery, being a Treatise on Surgical Inquiries, Diseases and Operations. By JOHN ERIC ERICHSEN, F. R. S., etc., etc. Revised by the author, from the Seventh and Enlarged English Edition. 2 vols. Philadelphia: Henry C. Lea. 1878.

We welcome with great pleasure this new edition of the best English text-book on Surgery, which has been many years before the profession, and has been constantly growing in popularity, both at home and abroad. It is indeed a noble work, to praise which would be to "paint the lilly, or gild refined gold," long may its distinguished author live to adorn the profession, and enjoy the just rewards of his learning, talent and industry. The new edition is fully up to the surgery of the day. Everything that has any claim to be considered a real improvement in surgery receives due notice, and some things even that are rather novelties than assured improvements. We believe that nowhere so well as in the compass of these two volumes can so complete a representation of the state of modern surgery be found. Esmarch's method of bloodless operating, Lister's antiseptic treatment of wounds and similar recent additions to surgical practice receive a due notice and just appreciation. As a specimen of the thoroughness which pervades the work we may mention, that there is a complete table of the operations of ligature of arteries for the cure of elephantiasis as far as known. The style is that of a master, the mechanical execution is perfect, it is an indispensable work to every one in any way engaged in the practice of surgery.

BELLEVUE HOSPITAL MEDICAL COLLEGE,

CITY OF NEW YORK,

SESSIONS OF 1877-78.

THE COLLEGIATE YEAR in this Institution embraces a preliminary Autumnal Term, the Regular Winter Session, and a Spring Session.

THE PRELIMINARY AUTUMNAL TERM for 1877-1878 will open on Wednesday September 19, 1877, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures on special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students expecting to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will begin on Wednesday, October 3, 1877, and end about the 1st of March, 1878.

FACULTY.

ISAAC E. TAYLOR, M. D., Emeritus Professor of Obstetrics and Diseases of Women, and President of the Faculty.	
JAMES R. WOOD, M. D., LL. D., Emeritus Prof. of Surgery.	FORDYCE BARKER, M. D., Professor of Clinical Midwifery and Diseases of Women.
AUSTIN FLINT, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine.	WILLIAM M. POLK, M. D., Professor of Materia Medica and Therapeutics, and Clinical Medicine.
W. H. VAN BUREN, M. D., Professor of Principles and Practice of Surgery, Diseases of Genito Urinary System, and Clinical Surgery.	AUSTIN FLINT, JR., M. D., Professor of Physiology and Physiological Anatomy, and Secretary of the Faculty.
LEWIS A. SAYRE, M. D., Professor of Orthopedic Surgery, Fractures and Disloca- tions, and Clinical Surgery.	JOSEPH D. BRYANT, M. D., Lecturer on General, Descriptive, and Surgical Anatomy.
ALEXANDER B. MOTT, M. D., Professor of Clinical and Operative Surgery.	R. OGDEN DOREMUS, M. D., LL. D., Professor of Chemistry and Toxicology.
WILLIAM T. LUSK, M. D., Professor of Obstetrics and Diseases of Women and Children, and Clinical Midwifery.	EDWARD G. JANEWAY, M. D., Professor of Pathological Anatomy and Histology, Dis- eases of the Nervous System, and Clinical Medicine.
EDMUND R. PEASLEE, M. D., LL. D., Professor of Gynecology.	

PROFESSORS OF SPECIAL DEPARTMENTS, ETC.

HENRY D. NOYES, M. D., Professor of Ophthalmology and Otolary.	EDWARD G. JANEWAY, M. D., Professor of Practical Anatomy. (Demonstrator of Anatomy.)
JOHN P. GRAY, M. D., LL. D., Professor of Psychological Medicine and Medical Juris- prudence	LEROY MILTON YALE, M. D., Lecturer Adjunct upon Orthopedic Surgery.
EDWARD L. KEYES, M. D., Professor of Dermatology, and Adjunct to the Chair of Principles of Surgery.	A. A. SMITH, M. D., Lecturer Adjunct upon Clinical Medicine.

A distinctive feature of the method of instruction in this College is the union of clinical and didactic teaching. All the lectures are given within the Hospital grounds. During the Regular Winter Session, in addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction.

The Spring Session consists chiefly of Recitations from text-books. This term continues from the first of March to the first of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the regular Faculty. Regular clinics are also given in the Hospital and in the College building.

FEES FOR THE REGULAR SESSION.

Fees for Tickets to all the Lectures during the preliminary and Regular Term, including Clinical Lectures.....	\$140 00
Matriculation Fee.....	5 00
Demonstrator's Ticket (including material for dissection)	10 00
Graduation Fee.....	30 00

FEES FOR THE SPRING SESSION.

Matriculation (Ticket good for the following Winter).....	\$5 00
Recitations, Clinics, and Lectures.....	35 00
Dissection (Ticket good for the following Winter).....	10 00

Students who have attended two full Winter courses of lectures may be examined at the end of their second course upon Materia Medica, Physiology, Anatomy, and Chemistry, and if successful, they will be examined at the end of their third course upon Practice of Medicine, Surgery, and Obstetrics only.

For the Annual Circular and Catalogue, giving regulations for graduation and other information, address Prof. AUSTIN FLINT, Jr., Secretary, Bellevue Hospital Medical College.



Sam S. Perry

THE LIVES OF THE LIVES OF WOMEN AND CHILDREN

NEW YORK: THE LIVES OF WOMEN AND CHILDREN.

OHIO
MEDICAL AND SURGICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

ART. I.—*Memoir of Samuel D. Turney, M.D., Professor of Diseases of Women and Children in Starling Medical College.* By J. H. POOLEY, M.D., Professor of Surgery in Starling Medical College, Columbus, Ohio.

The subject of this sketch, Dr. SAMUEL DENNY TURNEY, was born in Columbus, Ohio, December 26, 1824.

He belonged to a family of French Huguenot extraction, long settled in the State of Ohio, and which has proved by the men it has produced for successive generations that it was no mean race. We, as Americans, care little at heart, notwithstanding occasional foolish outbreaks of adulation that seem to speak otherwise, for the vain distinctions of rank and title, and yet we are not without our own proper pride in good family connections, and fully indorse the sentiment, "other things being equal give me blood." And many a fine strain of family, seeking freer outlook and fairer chance for development in the western world, has left its impress indelibly and for good upon our composite American race. Of all these, none have produced worthier sons, or deserved better of the adopted country than the French Huguenots.

Dr. Turney's father was a physician, who was born in Sheperdstown, Virginia, 1786; removed to Ross county, Ohio, in 1800. He commenced the practice of medicine in

Jefferson, Pickaway county. Removed to Circleville about the time the town was first laid out, 1810; removed from Circleville to Columbus, in 1823, where he practiced until his death, in 1827.

The following notice of Dr. Daniel Turney, published in one of the local papers at the time, deserves insertion here:

"The deceased was an eminent physician and surgeon, and for many years an arduous and successful practitioner in both departments. The distinguishing characteristics of his mind were firmness, and energy, and ardor, in the practice of his profession. Confident in the resources of the healing art, and in his own mind, he never remitted exertions while life remained. His intimate acquaintance with the diseases peculiar to our climate, arising from a sound medical education, and long extensive practice; his energy, and promptitude, and resources, in alarming and complicated cases, as well as his great professional success, render his death a public calamity, which has caused the deepest sensibility. As a skillful and successful practitioner, Dr. Turney has left few, if any superiors in the State. He was of plain, unaffected manners, generous and liberal as a man, and without the least tincture of avarice in his composition."

This sketch, meagre as it is, is not without interest, as it shows whence came some of the traits of his son which made him so eminently successful in the same arduous profession.

Youngest of a family of four, left an orphan when thus a mere infant, he grew up under his mother's fostering care, without the paternal restraint so wholesome in its influence, and without those means for a thorough education which he would probably have enjoyed, had his father lived. Well for him he had a good mother, one of the many whom the world knows not, save as the results of their lives are seen in noble and worthy sons who rise up in the after time to call them blessed. Her name was Janet Stirling Denny, daughter of

General James Denny, an officer in the war of 1812, and one of the pioneer settlers of Ohio.

Even as a child, almost as an infant, the young Samuel showed strong indications of a character of his own. He was unlike the other boys around him. He was fearless and passionate, and it is said that once while yet his flaxen curls and shining eyes were barely on a level with the top of his desk, he rose in arms, and blazing with wrath against injustice and oppression at school, where many like him, have fought their first fight against tyranny and wrong. He was distinguished, too, at this early period by his love for study and books. One relative recalls most vividly a picture of him seated on the floor, fairly buried in a book, well-nigh as big as himself and most of his spare time was thus spent rather than in the sports generally held most captivating at his age. Already, too, he showed in its rudiments that love of art which distinguished him all his life, for next to reading he loved best to carve in wood the beautiful or grotesque shapes his fancy dictated. Thus he spent his early, his school-boy days, in attendance on the common and high school, from which we may be sure he carried away all the knowledge they had to give, and what is worth far more—would they always gave that, too—an earnest feeling for the great world of intellectual wealth that lay beyond, and a heart-hunger for more, which never fails in some measure at least to lift him who has it to a higher than the common level.

After finishing his course at the high school, he went, through the kindness of M. J. Gilbert, Esq., who owned a scholarship there, to Milner Hall, at Kenyon College, Gambier, for two years. At the expiration of this short course, being thrown upon his own resources, he became clerk in the drug-store of Sumner Clark, in Columbus, working faithfully by day and studying by night, being his own principal teacher, now as always, laboring hard for the much coveted

knowledge that comes so easily to some, and is so little prized.

In 1840, the family moved back to Circleville, where he spent the rest of his life. He now entered as clerk in the store of Ruggles & Finley, and, having determined upon his future profession, he read medicine assiduously in all his spare time, at first without any body knowing what he was about, latterly under the direction of Dr. P. K. Hull. He attended lectures at Starling Medical College during the session of 1849-50, and at the University of Pennsylvania during 1850-51, graduating from the latter college in April, 1851. He immediately entered into practice in Circleville, where he continued to exercise his profession to the end of his life with the exception of the time spent in the army during the civil war, and a short vacation of a few months spent in Europe. He was married June 17, 1851, to Miss Evalina McCrea, who died in 1870, by whom he had two children, a daughter, who died in childhood, and a son Harry, who lives to mourn his father's loss and emulate his virtues.

However popular he became afterward, and no man could be more so, he found a young physician's life at first a hard struggle. He had refused a partnership with an older practitioner, proudly desirous of winning his own way. But however much the people admired him, they did not employ him. Though handsome and engaging, he was distressingly young in appearance, and he said he often wished at that time that his hair would turn gray in a single night. The poor and outcast were his first patients, and for them he worked as faithfully, and over their cases he studied as hard as a court physician ever did over a crowned sufferer.

And as all who thus work do, he found that, though they had no money to give him, they were paying him all the time, in knowledge, and what is better still, in the growing power to use knowledge successfully for the practical ends of his profession. Gradually, too, by their heartfelt recom-

mendations, and by the opportunity they gave him of displaying that most effective of all spectacles, a soul in earnest, they paid in another way, for they brought him other, and as the world judges, better patients.

As usual, along the old pathway, worn by many feet not less heroic than those that have marched up to batteries and bayonets, he conquered the shyness and coolness of the public, and won his place as one of their most trusted guides and advisers.

He was in partnership before the war, first with Dr. P. K. Huil, subsequently with Dr. A. W. Thompson.

Dr. Turney was never a politician, but he always had opinions, and the public among whom he lived always knew what those opinions were. He was an abolitionist before the war, even a violent one. His ardent temperament, and inborn love of liberty, could not tolerate the thought even of human slavery; and, though these sentiments were by no means popular then and there, he was not the man to flinch from them on that account, but rather the one to die for them should occasion demand, and this his neighbors and fellow-citizens knew right well. On one occasion, just before the war, the colored people held a public meeting in a public hall. This, in the view of many, was an intolerable presumption, if not high treason, on the part of men with pigmented skins, and accordingly a party of these jealous and chivalrous defenders of white men's rights determined to break up the meeting, and prepared to descend upon it with a fire-engine for the purpose of putting it out, as a dangerous moral and social conflagration. Dr. Turney heard of this, and fired at once with a burning sense of mingled shame and indignation, seized his revolver and rushed to the spot, and actually held the mob at bay single-handed, until others could come to the rescue. So grand a thing is moral courage that even in the person of a single man it is for a time invincible.

At the opening of the war he was the first surgeon to tender his services to the State, and until it ended he was in continuous and active service. He was first attached as Surgeon to the Thirteenth Regiment of Ohio Volunteers, June, 1861; commissioned Assistant Surgeon of Volunteers by the United States, February, 1863; Surgeon of Volunteers March, 1863, and Lieutenant-Colonel by brevet, for faithful and meritorious services in 1865. He was Medical Director on the Staff of General H. P. Van Cleve, Division and Post Medical Director of Hospitals at Murfreesboro, Tennessee, and other high and honorable positions, which bear the amplest testimony to his patriotism, devotion to duty, and professional efficiency. No one among the hundreds of brave and good men who labored for their fellow-citizens in arms, and cheerfully left ease and embraced the direst hardships of war that they might save life and lessen suffering, worked harder, or did better work than he of whom we write. The surgical history of the war, the noblest monument of life and limb saving surgery, and the most grandly humane utilization of horrible war the world has to show, bears abundant testimony to Dr. Turney's skill and labor. Never given to writing, always reticent, both with tongue and pen, he might have recorded many more cases, but has only left in this treasury of American military surgery the following contributions, all of value, and all the production, evidently of a competent surgeon who lacked the disposition, not the ability, ably to narrate what he knew excellently to do. These cases are in the Surgical Volume, Part I, only one, as follows:

"Private George W. Coates, Company F, Eighth Minnesota Volunteers, aged eighteen years, was wounded at Murfreesboro, Tennessee, December 7, 1864, by a conoidal ball, which fractured and depressed the right parietal bone, near the coronal suture. He entered the general hospital at the above place on the following day. The wound was hot and

painful. Violent and frequent epileptic convulsions commenced on the third day after the injury. On the 11th he was growing stupid, with tonic spasm of the muscles of the jaw and neck, and irregular and depressed pulse. He was placed under the influence of chloroform, and Surgeon Samuel D. Turney, U. S. V., trephined a portion of the inner table. Considerable hemorrhage from the veins of the diploe ensued. He reacted promptly. Water dressings were applied, and cathartics administered. The convulsions diminished in frequency and violence, and finally ceased entirely. On February 16, 1865, the patient was transferred to hospital No. 2, Nashville, Tennessee, and furloughed on February 28, 1865. On April 2d, he was admitted to the hospital at Murfreesboro, and was discharged from service July 4, 1865. The case is reported by the operator. On August 2, 1865, Pension Examiner S. Wiley reported that the patient was weak and anæmic. The right limbs were smaller than the left, the pupils were dilated, and there was inability to distinguish objects with the left eye. His disability is rated total and temporary."

I have quoted this case at length, because it possesses features of special interest which are worthy of attention.

In the Surgical Volume, Part II, Dr. Turney reports one case of lateral lithotomy, four of excision of the shoulder, five of excision of the elbow, and one of intermediary amputation of the arm.

These are but a very small part of the numerous operations performed by him, but he was never one to exploit his doings; and, though we do not know the fact, we feel quite safe in surmising that very likely some special outside pressure was brought to bear to make him report even these. Few as they are, however, they show one thing, that he was fully alive to the improved demands of modern surgery, in its conservative efforts and developments, which our countrymen did so much during the late war to improve and extend.

Dr. Turney was noted in the army for devotion to duty, not only when it was professional and appealed to his surgical enthusiasm, but also when it was extra-professional, and no matter how much self-denial, hardship, and unpleasantness it involved. What any man could do he could; what was good enough for the meanest soldier was good enough for him. He never asked how little, but how much he could do for a cause that had all his heart. Under the most trying circumstances his cheerfulness was invariable, and did good like a medicine; it was a restorative atmosphere both for the sick and the disheartened that went wherever he went. His courage and faith never failed, but bating no jot of heart or hope, he always expected the success that at last crowned the Union arms. This country has not yet paid—if indeed it can ever pay—the debt it owes to such men. Technically called non-combatants, they were constantly combating enemies more insidious than the batteries and bayonets arrayed on the other side. And many of them fell pierced with deadly missiles, and fell with their backs to the sod and their feet to the foe; while many others, voluntarily entering prisons to carry healing if it might be, either laid down their lives in this quiet heroism, or brought home at last shattered constitutions and life-long ailments. Everlasting be their honor, fadeless their laurels, who brought science, skill, untiring labors, as well as knightly courage and unswerving loyalty to their country's service when her need was sorest.

Of these noble men there was none nobler, and braver, and truer than he whose memorial we write.

At the close of the war Dr. Turney returned to Circleville, and entered again into practice there, resuming his partnership with Dr. A. W. Thompson. He soon acquired a very large and lucrative business, probably the largest and most lucrative ever enjoyed by any medical man in Pickaway county.

He found that his fellow-citizens had watched with pride his honorable career in the army, were proud of his well earned laurels, and abundantly desirous of availing themselves of his ripened and perfected skill. He was employed not only by those in his own town and county, but for a wide circuit beyond he was sought in difficult cases as a medical counsellor, by his brethren who appreciated his superiority. Particularly in the department of surgery was he in demand, so that soon all the business of this kind in his own territory fell into his hands, and he performed most of the more important operations of surgery, such as lithotomy, tracheotomy, herniotomy, ovariectomy, amputation, etc. His devotion to his profession was literally unbounded.

By night and by day, in sunshine and storm, he was almost constantly on the road; nor did the social standing of a patient, or his ability to pay, make any difference in Dr. Turney's devotion to a case that required it. He became a party, and a most earnest one, in the strife going on between life and death, and hard indeed did he fight, yielding only in the presence of the conqueror, death himself. Though he kept pace with all the refinements of diagnosis and pathology, yet these never filled his ideal of medicine. He was no mere expectant, he believed in his art, and in its powers for good, and with no common mastery did he wield these powers. He was simple and direct in his therapeutic attacks and defenses, but baffled once was not without many resources, which indeed hardly ever seemed to be exhausted, or even fairly developed.

Such a man, with an eminently social, though positive temperament, and a kindness of heart only obscured by a natural impatience and a multitude of worrying cares, but ever shining out in sweetest charities in case of real need, could not want for practice, nor as we have said did he, but soon had his hands full, and more too. Dependent as he was on his horses, in his incessant and often long rides, he did

not look upon this noble animal as a mere drudge, but almost as an humble friend. He loved a good horse, knew what a good horse was, and always had several who could do both him and themselves credit. Nor was he averse to trying their speed in a friendly contest on the track at times, for without anything of the objectionable traits that too often go with the character, he was yet "a bit of a sport" in his way. In his long rides about the country, he had an eye for every beauty of earth, sky, or air, the pomp of groves, the garniture of fields, the grand, the picturesque, or the simply sweet and restful scenes of nature, all brought pleasure to his keen eye and sensitive mind. He loved to take with him an appreciative companion on these rides, and a lady friend who frequently accompanied him, writes that she has often held "Lucy and Lassie," two famous trotters, before a cabin so humble that the price of either horse would have bought it thrice over, while the Doctor bent all his talent and resources to the service of the lowly occupant.

He was fond of all athletic sports and out-door occupations, not only horses, but a dog and gun were his delight, and he was an admirable shot, though his opportunities for this kind of indulgence were rare enough. He was made Surgeon General of the State of Ohio, in 1868, by Governor Hayes, and again in 1872, by Governor Noyes, a compliment well deserved by his eminent ability, and public services during the war.

He was appointed Professor of Physiology and Pathology in Starling Medical College, Columbus, Ohio, in 1867, but only lectured during one session, that of 1867-8, his excessive occupation in practice demanding all his time. At this time he was not particularly successful as a lecturer, owing to a bashfulness extraordinary and extreme, which clung to him to the last, and pre-occupation with other things, but as subsequent events proved, if he had persevered he would have reached high excellence. At a later period, as we shall see,

he resumed professorial functions with great success and approbation. For many years all his time and thought were filled with a practice so extensive that it is a wonder how he kept up his reading as he did, for very little seemed to escape him either in general literature or medicine. He read both books and medical journals extensively, and of the latter several in French, in which language he was a competent scholar. We have been told, by one who was associated with him during this time, that his labors in practice were truly enormous, almost incredible. And this vast amount of work wore on him, particularly his surgical work.

He was a good and fearless operator, characteristically quick and nervous at his work, and dreadfully impatient at delay or negligence on the part of his assistant. Though he operated a good deal, it was never enough to harden him properly so that he could do it comfortably. To the last a surgical operation of any magnitude excited him, unpleasantly, kept him awake the night before, and left him for hours afterward in a state of complete exhaustion. He felt all the responsibility, he felt for his patient, even for his needless fears, and though he did his work thoroughly and well, and in a certain sense delighted in it, his heart shrank from it. This gave him a certain sternness and abruptness on such occasions, which many who only see the surface, interpreted as heartlessness, when it was the furthest possible removed from anything of the kind. Another peculiarity of his operating was that he always shunned any parade or display about it, taking as few assistants as possible, and going quietly to his task, not summoning a crowd to witness his performances. Here again he was subject to misjudgment, many of his professional brethren felt themselves slighted at not being invited, and accused him of intentional neglect, when nothing was farther from his thought.

With such a practice as he had, Dr. Turney necessarily began to accumulate some money, but not more than a quar-

ter of what some men would have done. It may fairly be said he only took what came to him; he never sought it. He was the poorest collector in the world, many debts owing him for years, by those well able to pay, will never be collected; the writer remembers to have heard him say that he thought a physician was never so ill-employed as when running about collecting money.

This is one of his traits, however, that is not to be held up for imitation, but for reprobation. The successful physician who is thus careless on this vital point is doing, though unconsciously and unintentionally, a great injury to his younger brethren, who need all they earn, though they must find it hard to get it when their senior and superior is so culpably lax. Unless the doctor chooses to give it, and no man gives more, or half as much, every cent he earns should be paid, and promptly paid.

If his services were as grudgingly rendered as the remuneration is tendered, the public would soon lift up its multitudinous voice in protest, but they who neglect prompt payment, cut but a sorry figure in thus demanding prompt service. And where is the exquisite justice, because the physician gives much in thinking he should give all.

Besides if he gives at all, he should give where he sees fit, where he recognizes real need. To such, Dr. Turney was a lifelong benefactor, one of the last deeds of his life being thus to give as a Christmas present a large bill to a widow left with but a slender dependence.

If, as some have fondly thought, our alms deeds do go before and knock at heaven's door for us, he had sent many heralds in advance to the celestial city.

January 1, 1874, his partnership with Dr. A. W. Thompson was dissolved by mutual consent, but he retained more business than he could possibly attend to, and his incessant labors began to tell upon his health.

In June, 1875, warned that he must either take a vacation

or soon desist altogether, he took a trip to Europe, remaining abroad until the beginning of 1876.

During his absence he visited England, France, and Germany, but did not remain as long as he intended, or as his friends hoped he would, but as soon as he felt himself somewhat refreshed was impatient to return to his work. A fatal fascination, for had he staid away a year or two and gained more thorough renewal of his strength and energies we cannot help thinking he might still have been alive, and have been spared yet many years. Always averse to writing, he wrote but few letters home during this tour, which is to be regretted, for few ever went abroad with better traveler's eyes, and few could more delightfully describe what he saw, and thought, and felt. Many popular books of travels have been written by those not half so well qualified for the task as he, and we have only three or four short letters of his, to make us vainly wish for more.

Having, even from childhood, an extraordinary taste for art, the treasures of the European galleries constituted one of the great charms of his journey, while the wonderful old cathedrals filled his mind with wonder and delight.

The traveler's souvenirs, which he brought back with him, were few, but such as showed a true feeling and an exquisite connoisseurship. But, though he loved the fine arts, he had eyes for nature, too, and every remarkable feature of landscape was photographed in his mind, and his keen, kindly humor found food enough in the many ways of the many men he met and saw. Though with his intimates he could be drawn out, and gave evidence that he was none of the crowd of ordinary tourists that now-a-days almost throng both the highways and bye-ways of Europe, he hardly ever voluntarily even alluded to the subject.

On his return, he entered into partnership with Dr. C. A. Foster, now practicing at Washington Court House, in Fayette county, and, subsequently, in 1877, with Dr. A. P. Court-

right, which latter partnership continued until his death. In the fall of 1876, he was appointed Professor of Diseases of Women and Children, in Starling Medical College, which chair he filled with great and increasing acceptance to the end of his life. Alas! he was only spared to give one complete course and part of another. On parting with the class for the Christmas vacation of 1877, and little thinking that it was to be his last public utterance, he made use of the following words, which the sad event so soon following, indued with a melancholy and solemn significance, always inherent in last utterances, and which are very pleasant now for his friends to remember :

“Nearly nineteen hundred years ago the world was blessed in the coming of one who ‘spake as never man spake;’ and, what is still more remarkable, whose pure life was in strict accord with his holy teachings. Prophet, priest, god-man, he was also a physician. The woman who but laid hold of the hem of his garment was cured of an issue of many years. At his word the dumb spake, the leper was made clean; at his touch the lame leaped, the blind saw, and even the dead heard his tender voice, and came back from the shadowy land beyond the tomb. The church has fixed the birth of this man Jesus, and, though the day is probably incorrect, it has been accepted by the world. This is Christmas, and its annual recurrence is hailed with rejoicings throughout the civilized world. It is a period of festivity, a time of family reunion, when dissensions are healed, and the social ties made stronger; a time when the heart opens, the humanities are broadened, and we again renew that bond of fellowship which makes the world akin. That blessed period again approaches, and you will soon rejoin your friends in the customary holiday vacation. Permit me now, as I shall not have another opportunity, to wish you a merry Christmas and a happy New Year, and to express the hope that you will return from your brief vacation and this baptism of love, with sharpened purpose and higher resolve to excel in your studies. I would have you consecrate yourselves to your calling. There is no nobler profession than ours—none so noble. Equal in authority with the priest (for the command of the Master is, ‘Go heal the sick,’ as well as ‘Go preach the Gospel’), our commission ranks with his. God-ward, as divine, man-ward, relieving suffering, curing disease, rescuing from the grave, making the lame to leap, and the blind to see, carrying life, and comfort, and the sunshine of hope into the

gloom of the sick room, the office of the physician is more Christ-like in its beneficent ministrations than the service of the priest. Priests! We *are* priests. Not in robe and mitred cap; not in lip service; not in rites and ceremonies, where the pertumed censer swings before the shrine; not in chanting praise to Deity, with the swelling accompaniment of pealing organ, but high priests, silently ministering in hut, in hovel, or in palaces, wherever there is suffering humanity, in that temple of the living God not made with hands.

"See to it, gentlemen, that ere you are ordained into that great body you have pure hearts and clean hands. Again, a Merry Christmas and Happy New Year."

Such were Professor Turney's last public words. Had he known that they were the last, he could not have made them more fitting and appropriate, nor would they have had half the solemn interest for those who heard and remember them that they now have.

As a lecturer Dr. Turney was fast becoming eminent and effective in the highest degree, and when his hesitancy and bashfulness which, under all the circumstances, were wonderful, had been overcome, he would have had few equals in the lecture room.

His voice was exceedingly sweet and pleasant, and of good compass; his manner was quiet, dignified, and impressive, but kindly, and full of encouragement to the most timid student. It was not so much the master speaking *ex-cathedra*, as the advanced, enthusiastic student displaying his subject, and winning all who heard to share his studies and his enthusiasm. He gave what dull teachers never afford, and, what is better than any mere facts and details, a living and hearty interest in the subject he taught. His colleagues of Starling Medical College feel that they have sustained a severe and irreparable bereavement.

Partly from genuine modesty, but largely also no doubt from want of early practice, Dr. Turney wrote very little, which is matter of great regret, for what little he did write was so good, far above the average. Aside from the reports

of his army experience, already referred to, and a single paper on the use of belladonna in glandular affections, all his contributions to medical literature were published in the *Ohio Medical and Surgical Journal*, and the *London Practitioner*. They were on the "Intermittent Use of Es^march's Bandage in the Treatment of Chronic Ulcers;" "A New Principle in the Application of the Obstetric Forceps;" a second paper on "The Use of the Forceps," and on "The Use of Solid Food in Typhoid Fever."

The first of these papers contains a suggestion, original, we believe, with Dr. Turney, though the idea has since been worked over and presented in a somewhat different shape by other writers. As to the real and practical value of the idea or suggestion it presents, it is not possible at present to speak dogmatically and finally. It requires much experience and many trials to fix definitely the worth of any new therapeutical device in medicine or surgery. But the real merit of such a suggestion does not always depend upon its adoption and success in the very form first presented by its originator, so much as upon the new ideas thus struck out, though subsequently developed and modified by others. From this paper we make the following quotation, both as valuable in itself and because it shows the comprehensive and philosophical turn of Prof. Turney's mind, and the quality of thought he constantly brought to the commonest details of his professional work. He says:

"In another point of view, the subject (that of chronic ulcers) is not unworthy of discussion. There is nothing insignificant in medicine. There are no isolated phenomena. Under the slightest manifestation of life or disease lie the broad principles which make unities of life and disease. As the same law which governed the fall of the apple keeps the earth forever whirling in its orbit, so in a simple pimple are the fundamental laws which govern all inflammation; and he who thoroughly understands all that goes to the formation, progress, and final cure of an ordinary boil, has mastered the whole theory of inflammation, and is ready to carry a perfected knowledge to the cure of its larger manifestations in more vital organs."

The two papers on the use of the forceps are clear, practical, and powerful arguments in favor of the safe and judicious use of the instrument as against the almost interminable and pernicious delay which has wrought such irreparable mischief in the past, and still prevails in many parts of the country to an extent which physicians in the great cities can scarcely comprehend

The paper on solid food in typhoid fever, is a bold assertion of what he believed to be the indubitable teaching of his experience, as against the almost universal tradition of the profession on the subject. As might be expected, it aroused both notice and opposition. In the *Practitioner* for December, 1877, appeared a paper entitled, "Solid Food in Typhoid Fever, a reply to Professor Turney, by Dyce Duckworth, M.D." This article combats, entirely on theoretical principles, the plan of treatment recommended by Dr. Turney on practical grounds. Nor can we say that the objections advanced by the writer seem at all convincing, or even important.

We can only wish that the "American Professor," as he is styled by the English writer, had lived to reply to his strictures. But this, like all questions of practice, must be left for final settlement by the verdict of the profession, and we hope this verdict will be grounded upon actual trial rather than merely theoretical considerations.

Even before the holiday vacation, and his last lecture at Starling Medical College, Dr. Turney was suffering from prodromic symptoms, ill-defined, and unappreciated, of his final illness. He suffered a good deal from headache, irregular fever, and general malaise. He had also hæmorrhoids, both internal and external, which, though an old complaint, became very much aggravated. Combined with this was irritability of the bladder, which he interpreted as inability to evacuate it, and used the catheter, very ill-advisedly as will be seen from the subsequent history.

During all this time he kept up, and attended to professional calls in town and country.

On the afternoon of January 1st, 1878, he became suddenly very delirious, with a slight increase of temperature. The irritability of the bladder increased, and he passed immense quantities of perfectly limpid urine of specific gravity 1,000. The urine was carefully examined, and no trace of sugar or albumen found in it; it was nearly pure water, and proved highly irritant to the bladder. This, with his hæmorrhoids, and enlargement of the prostate, which was found to exist after death, kept him in a constant state of pain, under which his partial state of delirium made him very impatient, and he was all the time worrying both himself and attendants with the use of the catheter, and rectal injections.

On the evening of the 3d of January, under anæsthesia, his attending physician, Dr. A. P. Courtright, forcibly distended the sphincter ani, which diminished his sufferings very much, and he had a comfortable night, voiding urine two or three times without the catheter. During the following day and night his delirium increased, and on the morning of January 5, he was almost completely comatose, in which condition he remained until the afternoon of the 7th, when he seemed to be a little more conscious.

The excessive secretion of urine had now stopped, and that which was passed was about normal. For the following week there was but little change, except that he grew more restless, and was constantly wanting to get up, and when allowed to do so there was a marked tendency to progression in a straight line regardless of obstacles, and to pitch forward. His strength up to this time was remarkably good, pulse and temperature nearly normal. From this time there were no marked symptoms, nothing but a gradual decline of strength and obliteration of the mental faculties.

Notwithstanding his increasing weakness, he was con-

stantly restless and uneasy except when kept quiet by anodynes, and his delirium was always associated with an idea of going somewhere, so that it needed continual attention to keep him in bed. Forty-eight hours before his death paralysis of the muscles of deglutition occurred, and food and medicines were administered per rectum. He was still restless, and got out of bed and sat up in a chair four hours before his death.

After January 6, he passed from 16 to 20 ounces of urine in the 24 hours, of normal specific gravity. From the 8th to the 15th there was a very perceptible trace of albumen, which afterward disappeared. On several occasions during the last ten days of his illness, there was a very decided twitching of the muscles of the right side of the face, and upper extremity; this was the nearest approach to a convulsion. There was no paralysis, except that of the muscles of deglutition already referred to. The treatment was confined to fulfilling the rational indications of the case, mainly procuring rest, and sustaining the vital powers by food and stimulants.

He was most faithfully and skillfully attended throughout his sickness by his friend and partner, Dr. A. P. Courtright, of Circleville. The writer of this sketch saw him often in consultation, and he was visited once by Dr. Loving, Prof. of Theory and Practice in Starling Medical College. The opinion arrived at was that he was suffering from disease of indeterminate character, at or near the base of the brain.

The autopsy revealed universal and intense hyperæmia of the brain, with circumscribed softening of the pons varolii, corpora olivarii, and upper surface of the cerebellum. The kidneys were congested, and there was considerable enlargement of the prostate. With these exceptions all the organs were in remarkably healthy condition.

The following resolutions were passed by the faculty and students of Starling Medical College, as expressive of their

sense of bereavement on the death of Prof. Turney, and published in the newspapers at the time :

RESOLUTIONS BY THE FACULTY.

WHEREAS, We have learned with great sorrow of the death of Dr. Samuel D. Turney, Professor of Diseases of Women and Children in this College:

Resolved, That as a Faculty we most deeply deplore the loss of our talented and learned colleague, thus taken away in the midst of his usefulness and while his future seemed to promise increasingly valuable results to the College and to the profession at large.

Resolved, That we bear hearty and unanimous testimony to his devotion to scientific medicine, his originality and independence of thought, his happy and forcible gift of expression, both with tongue and pen, and his peculiar aptness not only to teach but also to stimulate and inspire the minds of the students—gifts which his innate modesty made him almost unconscious of, but which we can never forget.

Resolved, That the College be closed on the day of his funeral, and that the Faculty and students attend the funeral in a body.

Resolved, That these resolutions be published in the Ohio Medical and Surgical Journal, the Columbus and Circleville papers, and that a copy be forwarded to the family of the deceased.

By order of the Faculty.

STARLING LOVING, M.D., *Secretary*.

RESOLUTIONS BY THE STUDENTS.

At a meeting of the students of Starling Medical College the following resolutions were unanimously adopted to the memory of Professor Samuel D. Turney:

WHEREAS, The Great Disposer of events in his unerring wisdom has removed from us by death our beloved teacher, Professor Samuel D. Turney; and,

WHEREAS, We feel that it is fitting for us to give public expression to our grief; therefore, be it

Resolved, That Starling Medical College has lost one of its brightest and most valued teachers, and we feel that we have suffered an irreparable loss.

Resolved, That we treasure up the valuable instruction our deceased teacher gave us, and that each of us procure a copy of his closing address, and that we try to make the beautiful sentiments therein expressed our motto.

Resolved, That we tender to the friends of the deceased our sympathy, and while he was bound to them by the ties of kindred, he too was bound to us by ties not broken by death.

Resolved, That a copy of these resolutions be sent to the relatives of the deceased, and that copies be furnished the papers of this city, those of Pickaway county, and the Ohio Medical and Surgical Journal, with the request that they publish the same.

C. L. PINNEY,
WM. H. TURKOPP,
F. C. GRAY,
JOHN T. KIRKENDALL,
B. E. HARRISON,
Committee.

If the quality and quantity of the force, latent, as well as apparent, in him whose life we have briefly portrayed is not fully apparent to the reader, this sketch has been written in vain; but, nevertheless, a summing up or characterization of our subject will not be out of place.

That he was a rare man, our own intimate knowledge of him taught us, and all who knew him well confirm the judgment. Not once in a thousand times, perhaps, will you find one in the isolated station of a country doctor who challenged admiration at so many points as he. Both well-read and original in his profession, his standing there was never questioned by any who came in contact with him. But in the field of polite letters, in art, in music, in all departments of science, it was a wonder to find in this rather out-of-the-way Circleville, Ohio, one so full, so apt, with so easy a mastery of so many treasures, and withal as modest and unobtrusive as the shyest maiden.

Though he was modest to a fault, it was not for lack of strong and positive character; for when principle was at stake he could burn hot with no puny fires of indignation, but when the storm went down there remained that simple sweetness of character that made children love him, and women trust him, and his friends remember him as we

would fain be remembered, lovingly, regretfully, and yet thankfully, that they had been permitted to know him, and to share the sanctity of grieving for him.

In person Dr. Turney was of medium size, rather slender, but of symmetrical proportions, and endowed with great muscular strength and agility. All his motions were graceful, because he was always himself, but never thinking of himself. As the portrait that accompanies this sketch well shows, his face was handsome and expressive; never to be caught in its best expression, for it varied so much and so constantly as its features reflected the mood of his sympathetic nature, but always instinct with high intelligence and kindly humor.

Dr. Turney was not a member of any Christian church, but that he was of a deeply religious nature his concluding remarks to his class so soon before his death abundantly testify, and we have pleasure in fortifying this evidence by the testimony of one who knew him well, and was well qualified to speak on this point. The following is an extract from Rev. James S. Franklin, Episcopal rector of St. Stephen's Church, Middlebury, Vermont, formerly of St. Philip's, Circleville, and with it we may fittingly conclude:

"Having just learned, and that with great sorrow and grief, of the death of Dr. S. D. Turney, I ask the privilege of expressing my sense of his worth and of our loss. It was with joy and pride that I called him friend, and it is with a deep sense of bereavement that I write. The fast falling tears of many who loved him are a tribute to his worth. It was my happy lot to know him intimately, and I loved him dearly. His was not a cold, impassive nature; sparks of righteous anger and indignation were showered upon the objects of his scorn and wrath, but I can testify to an amiability, a tenderness, a sweetness, a love of all things beautiful, rare amongst men. His wide charity many will witness to, and his marked skill and usefulness all will acknowledge.

"He talked often and freely with me of those subjects which are of the first importance to thoughtful men, and I can declare that whilst his mental clearness and power and his thorough learning forced him to abandon the superstitions imbedded in much that passes for Christian

doctrine, nevertheless he recognized and bowed down his soul before the Great Father of Spirits, 'in whom we live and move and have our being.' He served and praised his God in acts of tenderness and love to his creatures. He did justice, loved mercy, and walked humbly with his God. Who requires more?"

ART. II.—*The Medical Expert*. By W. J. CONKLIN, M.D., Dayton, Ohio, Professor of Physiology in Starling Medical College. Read before the Montgomery County Medical Society, and published by request of the Society.

The subject of expert testimony has been lately receiving considerable attention from both the legal and medical professions. The subject is well worthy of this attention, involving, as it may, not only the rights of person and property growing out of a complicated social system, but also the lives and liberties of those indicted for the commission of capital offenses.

The boundaries of human knowledge have become so enlarged that a subdivision of labor in art and science has been rendered an absolute necessity. No man can successfully cultivate the whole field. "*Ars longa, vita brevis*," is the old Hippocratic aphorism. In the ordinary affairs of life we are accustomed to seek information on special subjects from those who have had special opportunities for informing themselves upon those subjects. The theory of the law is to carry into the adjudication of cases arising in the courts this practical rule of every-day life. Cases are continually arising in which the subject matter of inquiry is such that men in general have not sufficient knowledge to enable them to draw correct and intelligent conclusions. It is customary to call in those whose special training and experience have rendered them competent to instruct the court to a proper interpretation of the facts in proof, or to supply the missing links in the chain of evidence. These are called, in legal technology, *skilled witnesses* or *experts*. The

common or ordinary witness testifies only to the facts of which he has personal knowledge; the expert, on the other hand, states not only the general facts of the art or science which he represents, but also gives his *opinion* upon a certain statement of facts, which, contrary to the general rule, is admissible as evidence.

Wharton states that the general distinction between the expert and the non-expert is that the former gives opinions, the latter ordinarily only facts. The whole system of experts as now used is of comparatively recent origin. While it is true that the introduction of skilled witnesses runs far back in the history of jurisprudence, the distinction between matter of fact and matter of opinion in the testimony of scientific men was first clearly formulated by Lord Mansfield, in the celebrated case of *Folks v. Chadd*. The constantly expanding field of abstract and applied science is rapidly increasing the necessity for and the importance of this kind of evidence; and while the courts are prescribing more accurately the rules of its admission, there is still a heavy fog of doubt and uncertainty hanging around the whole subject.

The field, however, is far too broad to be successfully gleaned in a single evening. We shall only attempt to gather here and there a sheaf, bind them together with the thread of common sense, and present them for your consideration. Your committee proposes to limit itself to the discussion of the following three propositions:

1. Why has expert testimony fallen into such universal disrepute?
2. What is the remedy?
3. Is the expert entitled to special remuneration for his services?

No one familiar with legal literature will question the statement that expert testimony has been, since its first introduction into the courts, gradually decreasing in favor with our ablest jurists. The conflict of opinion be-

tween able and honorable men acting as experts in such noted trials as those of Mrs. Wharton, Dr Shooppe, Mr. Richardson, and many others known to us all, has done much to bring about this result.

Wharton, in his "Law of Evidence," holds the following strong language: "Peculiarly is this the case in matters psychological, in which there is no hypothesis so monstrous that an expert can not be found to swear to it on the stand, and to defend it with vehemence when off the stand."

Redfield makes the sweeping statement: "When we consider the conflicting character of testimony coming from experts, and often its one-sided and partisan character, and, above all, the tendency of the most mature and well-balanced minds to run into the most incomprehensible theorizing and unfounded dogmatism, * * * we can not much wonder that some of the wisest and most prudent men of the age are beginning to feel that the testimony of experts is too often becoming, in practice, but an ingenious device in the hands of unscrupulous men to stifle justice and vindicate the most high-handed crime." (Law of Wills.)

Mr. Stephen, in his "Criminal Law," objects to referring scientific questions to experts, even when nominated by the court, and considers a common jury better qualified than experts to deal with and decide all points of scientific evidence. However, when we read, further on, that in such an investigation "the result to be reached is not truth, simply, but such an approach to truth as the average run of men are capable of making, and that the result is more likely to be found in the opinions of common than scientific jurors," we cease to wonder at the choice of Mr. Stephen.

In the celebrated case of Palmer, who was tried in the English courts, in 1856, for poisoning Cook, in which there was marshaled a large array of expert witnesses, including such men as Taylor, Christison, and Brodie, the conflict of opinion was so great that the Attorney-General said: "I

have no language to express my abhorrence for the *traffic testimony*, which, from professional pique or for the sustentation of a particular theory, men of science—I grieve to say it—occasionally are led to offer.”

A distinguished judge lately said: “I think the opinions of experts are not so highly regarded now as they formerly were, for while they often afford great aid in the determination of facts, it often happens that experts can be found to testify to any theory, however absurd.”

These quotations from authentic sources are sufficient to indicate, from a legal stand point, the present status of expert testimony. The question, then, is a pertinent one, Why does a procedure upon which every one acts in the ordinary affairs of civil life, fail so utterly when applied to the solution of problems arising in our courts? Looked at from a medical point of view, it would seem as if these gentlemen were hurling their legal lances against a wind-mill largely of their own building. The opprobrium under which the medical expert rests is due largely—

1. To the inherent nature of the subject upon which he is required to give an opinion; and
2. To the erroneous practice of the courts.

While it is true that there are many pseudo-scientists and many corrupt men in scientific circles, we indignantly repel the wholesale charges of venality and corruption implied in several of the above quoted opinions. That the courts should so constantly have that class of men before them as experts, certainly reflects strongly upon the *character* of the court itself, since the court alone passes upon the *competency* of the witnesses, and alone has the power to compel attendance. We apprehend the difficulty lies not in finding honest and capable men to testify before the courts; the Diogenes of the law, armed with the proper authority, could readily ferret out *honest men* enough to serve the purposes of justice. While undoubtedly many absurdities have been committed

in the name of science, so as seemingly to justify the ludicrously extravagant description of Captain Gulliver's visit to the grand academy of Lagoda, in Laputa, neither science nor her followers need any defense before this Society. There is probably no class of men who, as a class, more earnestly seek after truth, who more rigorously subject every new hypothesis to the crucible of experiment, and who are more willing to adopt a truth when demonstrated, although it may demolish many favorite theories, than the true disciples of science.

The phrase "conflict of medical opinion," has become in certain quarters a sort of *shibboleth*, with which to destroy the value of all medical evidence. The frequency and importance of these so-called *conflicts* have been largely overrated.

That men should honestly draw different conclusions from the same statement of facts is not such a wonderful thing. Men constantly differ in their religious, political, and legal opinions; and we may add that the bitterness of the controversies engendered in these spheres of action finds no parallel in the annals of medicine.

Human evidence when reduced to its simplest form is apt to be conflicting. Let twenty men, for example, witness an ordinary street brawl, and the examination in the police court will, probably, reveal many conflicting accounts of the disturbance. We believe there are strong reasons for the inference, that when the natural obscurity of many departments of medicine, especially that of the nervous system (lesions of which are so liable to become the subject of judicial investigations) are duly considered, the agreement of opinion in medical matters among competent men is really remarkable. Mr. Erichsen, who is at present contributing a very able series of papers to the *Medical Times and Gazette*, on "Surgical Evidence in Courts of Law," makes the following statement, which should be extended to include physicians as well as surgeons. "Conflicts of opinion among

surgeons rarely, if ever, arise about facts. * * * But it is in the deductions drawn from admitted facts, and the opinions that may be legitimately based on them, that different views are entertained. The difference of the views thus entertained often appears to a non-medical tribunal to be much wider than it really is. It is often rather a difference of degree than an actual divergence of opinion as to actual condition, and if the case were tried before a tribunal possessing the requisite amount of medical knowledge to form an independent judgment as to the point at issue, these differences would often be narrowed to a very slender line or be completely reconciled."

It is, certainly, unfair to charge scientific medicine with all of the discrepancies exhibited by expert witnesses on the stand. These are largely due, as we shall presently attempt to show, to the customs of the courts in obtaining scientific evidence. In working up a case the effort of counsel is to make the *testimony conflicting*: if a scientific witness subpoenaed by the plaintiff has made a record either oral or written, the defendant uses every means in his power to secure rebutting testimony, and thus a *conflict of opinion* is inevitable. Very frequently the supposed conflict is merely the outcropping of the ignorance of one of the parties giving the opinion. Medicine is preëminently a progressive science, and he who is not imbued with this spirit, or who does not enjoy the opportunity of informing himself in the latest researches is very liable to be the innocent cause of a conflict of opinion.

We would direct special attention to the inherent obscurity of many medical problems. Medicine, with all of her glorious advances, is not, and never can be, an exact science. She has to deal with problems, the inherent difficulty of whose solution can scarcely be overrated. The bodily organs do not recognize mathematical formulæ in the performance of their specific functions. The laws which govern the operations of the human organism are not

to be read and studied like the printed clauses in a statute-book.

Take insanity, for example, there is no absolute *standard* by which to square all minds, and even if there were such a standard, it would be an impossibility to measure accurately the subtle operations of different minds.

The lawyers constantly ignore the cardinal fact in medicine—the key-stone, so to speak, of the medical arch, viz.: that disease is not a distinct entity—a something which exists apart from, and simply takes possession of the body.

Diseases, for the most part, consist in some derangement of the normal processes of the body. Consequently, physicians are compelled to treat *patients*, not simply *diseases*—but the patient, with his mental and physical idiosyncrasies, with his inherited and acquired tendencies, with his business and domestic worries, and with his surroundings. Hence, each case is a law unto itself.

But, secondly, does the judiciary possess the scriptural standard of excellence which permits it to throw the first stone?

The effort of counsel when retained in a case is, by no means, always to bring out, “the truth, the whole truth, and nothing but the truth,” but rather to gain a victory for his client. Every subterfuge, every piece of sophistry by which the “worse is made to appear the better reason,” is eagerly seized upon and used to the best advantage. If the case on trial be one in which the introduction of skilled testimony is essential for the instruction of the jury, “the highways and hedges” of the profession are searched by counsel to find some one who is ready to sustain their respective views. The witness is subpoenaed or not, just as he has made a favorable impression upon the lawyer.

Scientific attainments, experience, or honesty of purpose, weigh as nothing against the *availability* of the witness.

Practically, the lawyer's idea of an expert is one who is prepared to *swear favorably* to his client. An abundance of

knowledge is not, therefore, always a desideratum—the counsel ever stands ready to cry out, to such a one giving an adverse opinion, in the language used by Festus in that memorable trial before Agrippa, “Paul, thou art beside thyself: much learning has made thee mad.”

It is a manifest absurdity to suppose that every physician possesses that combination of qualities necessary in an expert.

Unfortunately, the qualifications which conventionally belong to the title of doctor of medicine, are very variable, and of very uncertain value; but a man may be a reputable and successful practitioner, and yet make a sorry appearance as an expert before a jury.

Bouvier defines experts to be “persons instructed by experience.” “But, more generally speaking, the term includes all ‘men of science,’ as it was used by Lord Mansfield: or ‘persons professionally acquainted with the science or practice in question’—Strickland on Evidence: or ‘conversant with the subject-matter, on questions of skill, science, trade, and others of like kind’—Best’s Principles of Evidence.” (Greenleaf on Evidence.)

Practically, however, the courts, under the present system of receiving experts’ testimony, have no means of judging of the qualifications of a particular witness. His deportment upon the witness stand, and the reasons which he assigns for his opinions, only go to affect his *credibility*, not the question of *admissibility*. It is not even necessary that the physician should be a graduate of any medical college, or that he should have a license to practice from any medical board, to render him competent to give his opinion in evidence. (N. O. J. & Gr. N. R. R. v. Allbritton, 38 Miss.)

In truth, we find that “it is always competent, and often the only way to establish the fact that one is an expert from *his own* statement under oath. * * * From the fact that such witnesses testify to *opinions* alone, if they are

willing to sell their reputation (?) for science for such a price as an employer is willing to pay, they can do it with substantial impunity." (Washburn, Public Health Rep., Vol. III.)

Another custom which tends to weaken the value of expert testimony is that of placing the witness upon the stand without having previously indicated the subjects upon which he is expected to give an opinion. A physician is rushed into court from the sick-room and forced to give a sworn opinion on perhaps some of the most intricate problems that ever arise in judicial investigations. He has no time to go deliberately over the points involved, no time to consult authorities, or no opportunity to formulate his answers so as to stand the test of a cross-examination. Such a course is unfair to the witness himself, unjust to the profession he represents, and often disastrous to the cause of justice.

Again, the manner in which counsel often conduct the examination of this class of witnesses is simply disgraceful. An eminent jurist, speaking on this point, says: "It is often such as to confer little credit upon them (counsel) either for learning or gentleness of manners. To be able to cross-examine a witness in matters of scientific opinion requires a somewhat familiar knowledge of the subject-matter itself, as well as of the premises upon which such opinion is based. And it sometimes happens that a counsel is called upon to conduct such examination without knowing the use of even the proper terms of art or science in which to frame his inquiries." (Washburn, 1 Am. Law Rev.)

Making due allowance for the intelligence and brilliancy of the members of the legal profession, it is ludicrous to suppose that they can master the details of an art or profession in a few hours' study. Crammed for the occasion, question swiftly follows question, and diligently is pursued the *ignis fatuus* of corruption and ignorance, which often-

times turns out to be nothing but *the counsel's own shadow*. "As counsel upon both sides look on the experts opposed to them in the light of hired advocates, it is obvious that so long as this system lasts it must have a deterring effect on the higher and better class of witnesses, who, whenever they have the option, will avoid placing themselves in such a position as to have imputations of venality and untruthfulness thrown out against them in a public court." (Taylor, Medical Jurisprudence.)

Finally, the rule adopted by our courts for obtaining the opinion of the expert is unphilosophical and misleading. The jugglery of words called hypothetical cases, at variance with the rule of evidence universally recognized in the courts, only renders confusion worse confounded. The idea is that if the witness gives an opinion based upon the facts in evidence he is usurping the special function of the jury, hence he must declare his opinion on a hypothetical assumption of facts, drawn up by the counsel, and which has no more foundation than the baseless fabric of a dream.

An ingenious attorney may, by the skillful statement of his false case, force the expert to give an opinion which he feels is not in harmony with the facts developed in the trial. Dr. Ray (Medical Jurisprudence of Insanity) aptly says: "If the case put to the expert is precisely that which has appeared in evidence, it is but little better than quibbling to call it a hypothetical case. * * * If, on the other hand, a case truly hypothetical is put to the expert, then it needs but little reflection to see that the less it resembles the case exhibited by the witnesses, the less will it enlighten the jury in the formation of their verdict."

The *reductio ad absurdum* of this custom is seen in the fact that in the Huntington trial in New York, some years ago, a single question addressed to the medical experts comprised over one thousand words—nearly two pages of closely printed text. This extreme length was necessary to state

the hypothetical case under the rule of the court. The hypothetical case, however, submitted in the celebrated trial of McFarland, for the murder of Richardson, exceeded the above in length by over two hundred words.

So long as the abuses, which we have thus hastily reviewed, continue, *so long* will expert testimony fail to command the respect to which it is *de jure* entitled.

The remedy must consist in the exercise of greater care in the selection of experts, and in the adoption of means to prevent them from becoming partisans. Different nations have sought in different ways to secure these results. The English Admiralty Courts submit all questions of a technical nature to four masters of the Trinity House, experienced in all the rules of navigation, who, without creating any charge of injustice in the decisions of the courts, constantly guide these decisions by answering difficult nautical questions.

Prussia, which is said to have the best corps of experts the world has ever seen, has a permanent commission of experts in matters connected with medical science.

In France the courts decide who shall act as experts, and what questions shall be submitted to them, when the parties themselves fail to agree. Their written answers are practically, though not theoretically, conclusive.

We would advocate the adoption of a plan similar to the French system, the details of which we have no time to develop.

The expert should be considered the instructor of the judge and jury; and hence, should not appear as the paid witness of either of the litigants. He should be chosen on account of his knowledge, large experience, accuracy of observation, discreteness in judging, and, above all, thorough integrity.

Such men may be rare, but the court will rarely fail to find such in every department of science, if the effort be honestly and intelligently made. He should receive a proper

remuneration for his services; and, very probably, taking into account the saving of time to the court, the cost of a suit, necessitating skilled testimony, would be *actually less* than under the present custom of marshaling a host of experts (?) to testify in the interest of each party.

In Iowa, by an act of the Legislature, the court fixes the compensation of experts with reference to the time employed and the degree of learning required. In our own State, the court determines the fee allowed physicians for making coroner's examinations, which is, in fact, one form of expert testimony.

The adoption of a scheme, thus briefly outlined, would certainly have a strong tendency to enhance the value of expert testimony; to exclude the dishonest and incompetent witness; to remove the imputation of "traffic testimony;" and to reduce to a minimum the liability of the judgment to be warped by prejudice, self-interest, or partisanship.

Our next inquiry is, whether or not the medical witness has a *right to demand* extra compensation for his services as an expert? We can only go briefly into the principles of law and equity herein involved.

It has become customary everywhere for the parties in a litigated case, requiring professional testimony, to arrange the fee with the expert witness. This custom has provoked sharp criticism from our legal friends, and a recent writer in a Law Review sanctimoniously cries out: "That if it should ever, unfortunately, become a well recognized fact that there is a regular *witness market*, where may be procured scientific, professional, or technical evidence, as it may be wanted, the most dire consequences must ensue!"

The law steadily recognizes the distinction between an ordinary witness who testifies only to facts within his personal knowledge, and the expert who merely gives his *opinion* upon a known or hypothetical state of facts. The fact that this service is rendered under oath is really the

only circumstance which makes the name of *witness* applicable to the expert at all.

From the duties and responsibilities of a common witness physicians claim no immunity; in this respect they stand upon an equality, in reference to rights and compensation, with all other witnesses. This general duty every good citizen owes to the State, and, while it operates as a tax borne equally by all, it offers no ground of complaint. The service rendered by the expert is, however, a *special service*, which requires the expenditure of time, labor, and capital in the acquisition of the knowledge which underlies it; it is a service which can necessarily be rendered by few men in society; and, consequently, it is unjust and in violation of the principles of law for the State to impose this unequal tax or burden upon them. It may also be stated here, although we lay no special emphasis upon the fact, that the pecuniary loss to the medical man in attendance upon court is ordinarily larger than the loss to the man of business. The practice of medicine is purely a personal matter, and the service can rarely be satisfactorily done by a deputy. The service also which the physician is called upon to render can only exceptionally be postponed until a more favorable season. The income of the medical witness ceases when his personal labor ceases, which is vastly different from the man in ordinary business, who may carry on his work for a reasonable time by agents, without serious detriment.

Certainly the proposition will not be questioned, that a man's professional knowledge, which is the profit of his own work—his *capital*, and which is as truly his source of income and means of support as the crops of the farmer, or the goods of the merchant, is his *own private property*. If it is private property the law is assuredly bound to respect it, and to protect the owner in its possession, as fully as it does any other form of property. The term *property*, in the legal sense, implies the power to dispose of the thing owned in every legal

way, to possess it, to use it, and to exclude every one else from interfering with it. (Worcester.)

Mr. Washburn, the distinguished professor in Harvard Law School, states emphatically that, in his opinion, a party has no right to call upon a man of science or skill to exercise these in a civil suit by simply tendering him the ordinary witness fees. He, however, proceeds to say, that "if the case be one of a public nature, involving the question of a crime of magnitude, where the public safety requires the investigation, the right to compel the attendance of such witness becomes an incident to the exercise of government itself, in the same way that a juror is obliged to sacrifice convenience or profit to render a public service, or the soldier is called upon to take up arms in defense or execution of the law."

While we recognize the general truth of the maxim *Salus populi suprema lex*, we fail to see wherein this affects the question at issue. The question is not whether in very exceptional cases the court has the power to compel the services of every citizen, but simply whether in the ordinary routine of judicial business, the expert is entitled to compensation for the use of his property. We can scarcely conceive of a case arising in our courts, where the public safety is so endangered as to call for the exercise of this, so to speak, *reserve* power. In the face of such an emergency, we dare say, the patriotism of the medical profession would permit of no quibbling about fees or personal sacrifice. Certainly, however, the eminent gentleman did not mean to ascribe so much importance to the host of criminal cases, which fill the dockets of every court. (See case of Dement, *supra*.)

In concluding this portion of my subject, permit me to direct your attention to the fact, that when it becomes necessary in the exigency of public events for the State to seize and use private property, the law is clear as to the right of

the individual to demand equitable relief; if the State appropriates realty for a public purpose, a condemnation suit determines the amount of compensation.

It is questioned, in high legal circles, whether or not an expert is compelled to obey the ordinary witness subpœna. While it is true that a witness is not supposed to know for what purpose he is wanted, on the other hand, before an attachment can be issued against a witness, it is necessary that an affidavit should be filed, setting forth that his evidence is material to the pending issue. (1 Greenleaf, ; 1 Wharton, § 382; Sprague, case of Roelker, *supra*.)

"In *Betts v. Clifford* (1858) the late Lord Campbell stated, in answer to a question, that a *scientific witness* was not bound to attend upon being served with a subpœna, and that he ought not to be subpœnaed." (1 Taylor, 16.)

It has been ruled at *nisi prius* in England, within the last few years, that when a medical witness has no personal knowledge of the facts in a given case, he is not obliged to obey the ordinary witness subpœna, and will not be held in contempt for disobeying it. (Redfield, *loc cit.*, note.)

However, it is but right to say, that the weight of authority is in favor of the power of the court to compel the bodily presence of the witness; it certainly seems scarcely right, that the witness should have the power of deciding upon the necessity of his attendance when duly summoned.

But having appeared in court the power of the subpœna ends, and the witness is not guilty of contempt for refusing to give his professional opinion in evidence. As Dr. Hobbs well says: "But if called to the stand and service demanded of him as a skilled witness, he is as free to refuse or respond as when other professional advice or service is asked of him elsewhere. His medical knowledge and skill and ability to teach belong to no common stock, to which the public may have access without his consent." (Trans. Ind. State Med. Soc., 1877.)

Referring to the legal text-books for information, we find Mr. Greenleaf, in his work on Evidence, stating the general principle as follows: "There is a distinction between a witness to facts, and a witness selected by a party to give his opinion on a subject with which he is peculiarly conversant from his employment in life. The former is bound as a matter of public duty, to testify to facts within his knowledge. The latter is under no such obligation; and the party who selects him must pay for his time before he will be compelled to testify." (Webb v. Page, 1843.)

Wharton (1 Law of Evidence) says: "It is not contrary to the policy of the law that an expert should be especially feed, so that the testimony of competent scientific men can be obtained without loss to themselves."

Ordroneaux (Jurisprudence of Medicine): "It is evident that the skill and professional experience of a man are so far his individual capital and property, that he cannot be compelled to bestow it gratuitously upon any party. Neither the public, any more than any private person, have a right to extort services from him in the line of his profession without adequate compensation. On the witness-stand, precisely as in his office, his opinions may be given or withheld at pleasure, for a skilled witness cannot be compelled to give an opinion, nor be committed for contempt if he refuses to do so."

Taylor (1 Med. Jurisprudence): "Before being sworn to deliver his evidence, a medical or scientific witness may claim the payment of *his customary* fees, unless an arrangement has already been made between him and his solicitors who have sent him a subpoena. These fees are generally made a matter of private arrangement between the witness and the attorney."

But few cases have been brought before the courts in which the question of expert remuneration has been an issue, and the decisions have been by no means uniform in these few

cases. Within a very recent period the Supreme Courts of Alabama and Indiana have given opinions directly opposed to each other upon the subject under discussion.

Judge Sprague, of the District Court of the United States for Massachusetts, on the motion of the District Attorney for a *capias* against Roelker, who had disobeyed a subpoena to act as interpreter, ruled: "A similar question has heretofore arisen as to experts, and I have declined to issue process to arrest in such case. When a person has knowledge of any fact pertinent to an issue to be tried, he may be compelled to attend as a witness. In this all stand upon equal ground. But to compel a person to attend merely because he is accomplished in a particular science, art, or profession would subject the same individual to be called upon in every cause in which any question in his department of knowledge is to be solved. Thus the most eminent physician might be compelled, merely for the ordinary witness fees, to attend from the remotest part of the district, and give his opinion in every trial in which a medical question should arise." (Sprague's Decisions, 276.)

In the case of *The People v. Montgomery*, in New York, which was carried up on the complaint of irregularity on the part of the District Attorney, in the payment of \$500 to Dr. Hammond for his professional services as witness, the Court held: "It seems to us that the District Attorney was acting in the line of his duty, as public prosecutor, in securing the attendance of a proper medical witness of high repute to meet the distinguished medical experts which he knew the prisoner expected to call on his side. * * * He (Hammond) could not have been required, under process of subpoena, to examine the case, and to have used his skill and knowledge to enable him to give an opinion upon any points of the case, nor to have attended during the whole trial, and attentively considered and carefully heard all the testimony given on both sides, in order to qual-

ify him to give a deliberate opinion upon such testimony, as an expert, in respect to the question of the sanity of the prisoner. Professional witnesses, I suppose, are more or less paid for their time, *services*, and expenses, when called as experts in important cases, in all parts of the country." (13 Abbott Prac. Rep., N. S.)

In the case of *Buchman v. The State of Indiana*, appealed from the Allen County Circuit Court, Dr. Buchman was committed for contempt in refusing to give his professional opinion, without compensation, in a case of rape. The Supreme Court held (two Judges dissenting): "It is sufficient to say that physicians and surgeons, whose opinions are valuable to them as a source of their income and livelihood, can not be compelled to perform service by giving such opinions in a court of justice without such payment. The commitment of appellant for contempt was erroneous, and the judgment of the court below is reversed." (Central Law Journal, March, 1878.)

It was further decided in this case that the term *witness*, in the section of the bill of rights which provides that in criminal prosecutions the accused shall have the right to compel the attendance of witnesses in his favor, does *not* include the *expert*.

In the case of *Dr. Dement*, the Supreme Court of Alabama gave an opinion opposed to those quoted above. It was held:

1. That the decisions upon the question of expert remuneration only go to show that persons summoned to testify as experts ought to receive compensation for their *loss of time*, and not for their *professional opinions*.

2. There is, practically, little difference between the attitude of the expert and the non-expert witness, for, in fact, they are all witnesses at last.

3. The testimony of the expert can be justly claimed by the public as a tax paid by him to that system of laws which protects his rights as well as others; and, further,

it is of vital interest that the courts should have the power to coerce the production of any relevant evidence requisite to prevent them from falling into error. (Cent. Law Journal, January, 1877.)

The last two propositions are probably sufficiently discussed in the body of this paper; and a very cursory reading of the decisions above quoted will reveal the error into which the learned judge has fallen in the first proposition, although it is but fair to state that he does not refer in his opinion to some of the most pertinent cases given in the text.

So far as we have been able to learn, the Ohio courts have never passed upon the question at issue. Our only recourse seems to be for some self-sacrificing doctor to make the test case, or, which is perhaps better for the profession, to appeal to the Legislature, and secure their rights by statutory enactment.

We may here allude to the fact that the young lawyers of our city, feeling the injustice of being compelled to defend criminals at the option of the judge, without compensation, appealed to the Legislature, and secured the passage of a bill which provides for the payment of counsel assigned to the defense of those indicted for felonies.

Expert testimony, notwithstanding the adverse criticisms of able jurists, is, properly applied, one of the strongest instrumentalities in the administration of justice. Its scope and uses are gradually enlarging as the boundaries of accurate knowledge widen. There are many cases of murder, poisoning, insanity, etc., in which the knowledge of the chemist, or microscopist, or alienist is absolutely necessary to unravel the web of doubt which circumstances have woven around them. To deprive the court and jury of this aid is certainly administering justice blindly. It behooves the two professions more directly interested to define accurately the province of the expert witness, and to place this ally of justice upon a more secure foundation. Every effort

should be put forth to obtain men for experts who are both competent and honest. Every effort should be made to prevent them becoming partisans, and to restrain that *bias of mind* which is inseparable from human organization, and which so often colors the opinions of the most honorable men. Let the expert be, in truth, the *amicus curia*.

Learning and science are the handmaids of truth: truth the consort of justice. Anything which tends to divorce them directly impairs the public confidence in the purity of our judicial system, and brings reproach upon its ministers and instrumentalities.

DAYTON, OHIO, April 4, 1878.

ART. III.—*On Atmospheric Germs, and their Deleterious Presence in the Normal Reparation of Wounds.* Read at the November session, 1877, of the Muskingum County Medical Society. By J. R. LARZELERE, M.D., Zanesville, Ohio. Physician to the City Infirmary; late President of the Muskingum County Medical Society, etc.

MR. PRESIDENT: Personally, for some years past, it has been a feeling of inward pride with myself, to cultivate a grateful respect for those devout thinkers and investigators, who have devoted a series of years of active energy to any branch of science—especially to any one of the several branches which are ministerial to medicine. I have regarded them as benefactors of mankind. At a recent session, I regret to say, this cultivated sense of pride was somewhat humiliated, while listening to the onslaught of words from an assiduous student and learned member, who denounced the conclusions of arduous workers, having at their command all the modern appliances, by which to arrive at a definite understanding of a given subject.

Those of us who have been deprived of investigating matter and its properties, unaided, save by the natural senses, should be reticent, at least, in our denunciation of the con-

clusions of those who have drawn from so highly favorable surroundings. In fact, it is the auxilliary agencies to the natural senses only, which enables us to arrive at correct conclusions, in investigating and demonstrating the inferior forms of living or inert matter.

In commentating upon the papers of Dr. Chambers, relative to the treatment of wounds, my friend Dr. McElroy, took occasion to say, that the atmosphere was not impregnated with low forms of living organisms, neither was it a vehicle for the conveyance of any such imaginary matter as bacteria, microzymes, germs, etc., the existence of which was a myth; hence no such cause could interfere in the reparative processes of wounds. Also, that water was the best antiseptic treatment for all wounds. Mr. President, the above is understandable language, and comes from an able member, one who is noted for his indomitable energy and vigilance to feed upon the very latest morsel which falls from the pen or press; hence its gravity to us juniors who have hastily scanned the literature on the subject, and were led to believe that there really was something in the air which learned men denominated germs; and that they (the germs) did truly interpose in retarding the normal reparation of wounds.

Iipse dixit may be good enough on some occasions, but we must not forget that it is one thing to refute a proposition or theory, and another to prove the truth of a doctrine, which implicitly or explicitly contradicts that proposition or theory.

For centuries past the learned of the respective age have maintained, for and against, the existence of some form or forms of organisms in the atmosphere. Adverse theories, hypotheses, and conclusions, were alike contested by the opposing parties. By some the sacred text was referred to, as proof of the genesis of living organisms from dead matter; while others maintained that the atmosphere was the

mother of germs. The best array of ability was brought forth by way of speculative reasoning, to prove one or the other premise to be true. The old sages did not seem to have entertained the shadow of an idea as to the results these germs had upon the reparation of wounds. They had no physiology and therapeutics to awaken the further inquiry. Unlike the present age which possesses men whose minds have been inured, through consecutive years of trained thought, in view of elaborating the principles and results of a given branch of science. The first physicists of the day are engaged in the right course to work down to the foundation of principles, and obtain results as no other naturalists of the past could possibly have done. The first researches of importance on the subject, occurred about the years thirty-six or seven of the present century. Schulz and Schwann caused air to pass through red hot glass tubes into boiled infusions. The results which they obtained were that such infusions thus treated developed no living things; while if the same infusions were subsequently exposed to the atmosphere, living things appeared rapidly and abundantly. Contemporaneously with these investigations, a remarkable discovery was made by Cagniard, that fermentation, in so far as it was accompanied by the development of microscopical organisms, became assimilated to the decomposition of infusions of ordinary animal or vegetable matter, suggesting to the mind that the organisms were the cause of fermentation and putrefaction. Old Berzelius and Liebig at first laughed the idea to scorn. They felt just as my friend did, when at a preceding session it was stated the air contained germs, and that it was highly probable they did interfere with the normal repair of wounds.

So early as 1843, a young man, who subsequently attained to high eminence, (I refer to the illustrious Helmholtz,) demonstrated by experiments alike elegant and conclusive, that fermentation and putrefaction are not caused by a gas

or diffusible fluid, but that which excites these processes gives rise to living forms in a fermentable or putrescible fluid.

A little later in the present century, Schröder and Dusch experimented with cotton-wool, allowing putrefiable materials only, to come in contact with air which had been filtered through cotton-wool; the materials thus treated being subsequently tested, were found not to putrefy, nor ferment, nor develop living forms. It now followed for some one to demonstrate that common air does contain particles of solid matter; and, secondly, that filtration through cotton-wool arrests these particles, and allows only physically pure air to pass, which has been done by the beautiful experiments of Prof. Tyndall. Also the like beautiful experiments of M. Pasteur, which will ever render his name famous. He not only filtered air through cotton-wool, but subjected the latter to microscopical examination, and found that sundry bodies, clearly recognizable as germs, were among the solid particles strained off. Secondly, he proved that these germs were competent to give rise to living forms, by sowing them in a solution fitted for their development.

In confirmation of the truth of the above, I may mention such names as Huxley, Burdon Sanderson, Charlton Bastian, Rolleson, Humphrey, etc.—men who, for years, have pursued almost daily research in investigating the atmosphere for the existence of particles, germs, bacteria, mycocytes, or whatever name they may be called. They exist as the lowest form of organisms, and the air is the great, if not the only, vehicle of these minute particles of matter.

It is to the exclusion of air in the one case, and its admission in the other, must be attributed the difference in the changes which follow a simple and a compound fracture, as also of a subcutaneous, and a more free external incision. The theory of the treatment of wounds by the antiseptic method of Prof. Lister is based upon the fact that the air

contains germs, and that the prepared cloths and oakum dressings only allow the pure air to reach the wound, while the bacteria are retained upon the exterior surface of the dressing. Effused blood, and other fluids of low vitality, are peculiarly prone to decomposition and disintegration from the admission of air. And so soon as experimental physiology will disclose some means of increasing the resistance of the blood to decomposition, or teach us some therapeutics which will dam up the incised or torn vessels, so as to prevent its effusion into wounds after they are closed, primary union would be the rule. The frequent failure of wounds to unite by first intention is discreditable alike to physiology and surgery. For what we know on the subject is due to the experimental researches of such men as have been herein named, and it savors of professional ingratitude for a learned member to declare the conclusions of these years of labor imaginary—a myth.

As members of a scientific profession, it is well for us to bear in mind that thousands of people have, and still do, perish for lack of knowledge in the profession; also, that the means for the alleviation of the miseries, afflictions, and welfare of mankind must be worked out by the patient and untiring efforts of those who delight in the study of all the multitudinous aspects of nature. Whatever further elucidation may be developed by the researches of the future must emanate mainly from the physiologist, which, necessarily, reflects more or less knowledge in the department of pathology.

Aside from germ transportation in the vehicle of the atmosphere, and somewhat akin thereto, there is a manifest demonstration of germ action in the transmission into the living economy from more solid matter, viz., vaccination. All are familiar with what happens subsequent to the introduction of an infinitesimal dose of vaccine matter into the papillary layer of the skin. At the place of the wound

appears a vesicle; that which distends the vesicle is vaccine matter, in quantity a hundred, or thousand, more than that which was originally inserted. We may ask: What has taken place here to account for this changed phenomena? Has vaccine matter irritating properties, hence a blister, the fluid of which has the same irritating property? or, does the vaccine matter contain living particles which have grown and multiplied when they have been planted? The observations and experiments of Chauveau, corroborated by Burdon Sanderson, appear to leave no doubt of the fact of the latter. Experimentation has proved the active element of vaccine lymph non-diffusible, and contains minute particles, which are made visible in the lymph of the microscope.

Therefore, as the labors and researches of men of science have latterly developed so much for the increase of knowledge, let us be wise, however hard the struggle, and root out of the mind the accumulated false teachings of the past.



ART. IV.—*On the Influence of Atmospheric Germs on the Healing of Open Wounds.* By Z. COLLINS MCElROY, M.D., Zanesville, Ohio, Physician to the City Infirmary; Member of the Muskingum County Medical Society, and of the Societies of Licking and Perry Counties, Ohio, etc., being a reply to the paper of Dr. Larzelere, read at the November session of the Muskingum County Medical Society.

Dr. McElroy said that Dr. Larzelere has read to the Society such a paper as he alone of almost all members of the Society could write. Pleasant in tone, faultless in diction, and bringing prominently forward the historical part of the subject; very interesting and instructive. He was at one time a full believer in the "germ theory" of so-called disease: But a wider knowledge and, as he believes, truer conceptions of what we call "disease" or "diseased action," in not alone human bodies but in those of inferior animals, as well as the vegetable realm of nature, had compelled him to abandon it as being altogether too narrow and restricted

to explain any other phenomena of abnormal life than those stated clearly traceable to parasitic origin, animal or vegetable.

Scabies and *trichina spiralis* are examples from which there is no appeal. Leaving out of consideration mechanical and chemical injuries to living tissue, the causation of the whole catalogue of so called local inflammations and general fevers are more satisfactorily explained to my mind by considering them as questions of force rather than questions of germs.

The whole catalogue of so-called eruptive fevers, known to be communicated from one to another, does not need the aid of hypothetical germs in order to get an understanding of the mode by which they are transmitted. It is, indeed, not necessary to suppose anything, but simply to interpret the facts in a very common sense sort of a way. Take for example vaccination, as a tangible illustration. A minute particle of matter from a vesicle is transferred to an unvaccinated person in health, by direct inoculation through the outer layer of the skin. Vaccine lymph is as structureless as nitro-glycerine viewed under the microscope. Perhaps very high powers may show imperfect crystals or granules, a very natural and to be expected change in physical appearance consequent on the loss of fluid by exposure to the air, as well as on a microscopic slide. View vaccine lymph as material "storing up force," and all mystery is at an end, except the precise steps of the chemical changes it brings about in living bodies. The material of vaccine lymph we know, and the materials of nitro-glycerine we know, and we further know that both "store up force," available under certain conditions to produce certain definite dynamic results. Nitro-glycerine produces its results by explosion, that is, by instantly assuming the gaseous form. It will burn in the open air without other results than the evolution of light and heat. The conditions for the production

of definite dynamic results by vaccine lymph differ widely from those for nitro-glycerine. There is no other place or conditions for vaccine matter to produce any dynamic results except in living bodies. In them its operation is slow or fast, depending on what it is compared with—slow compared with nitro-glycerine, and fast when compared with those brought about by time or age. But the results only differ in the matter of time—nitro-glycerine instantaneously, vaccine lymph, those of nitro-glycerine diluted by time. Vaccine lymph is material “storing up force,” capable under certain conditions of modifying the so-called nutritive processes, but in reality the constructive processes, of living bodies. It does a certain amount of physical—chemico-physical—work in modifying the structural arrangement of materials in existing tissue.

In much the same way, more or less modified by the physical condition of the material, the one in fluid, the others in the gaseous form, are all the so-called eruptive fevers communicated, in what may be designated the natural, or perhaps, more properly speaking, the accidental way, that is, without design or purpose, as is the case in vaccination.

It is, therefore, much more intelligible to me to think of, and speak of, in such connections, material “*storing up force*” than of germs, be they microzymes, bacteria, etc., or any other technical designation for material apparently bringing about such results as diseased actions in living bodies.

In a word, I am convinced that these microscopical forms of life have a veritable existence, but must be permitted to doubt whether they play the important role in the disturbance of the constructive processes in human bodies, with which they are credited by many of our contemporaries.

I look upon these microscopical forms of life very much in the same way as what are called maggots in dead and decaying flesh in warm weather. The maggots have had nothing to do with the cause of death, but they make their

appearance because there are present the conditions of their lives. So of microzymes, bacteria, etc. They play the same part as the maggots—i. e., scavengers—present because the conditions for their lives are present, a consequence and not a cause of existing conditions of their lives.

But Dr. Larzelere has confined himself in the paper just read to the influence of atmospheric germs on the healing of open wounds. That the atmosphere is a great reservoir of germs, always in readiness to infect and prevent the healing up of open wounds, is on its face, and to my mind, so absurd a proposition as to be outside of all human belief, with all its credulity. The antiseptic dressing of wounds advocated by the Edinburgh professor has merits, but they do not come out of, or from, carbolic acid, or other so-called antiseptic chemicals. I am not above taking lessons even from inferior animals, and, therefore, do not forget the treatment of their wounds by our domestic dogs, always presupposing that the wound is within reach of the dog's tongue, on his body. I do not think art has ever improved on the dog's saliva as a dressing, or the dog's tongue as an instrument for its application, in the remedial management of his wounds. The nearest approach to the dog's treatment is that of the hydro-pathists, by the application of pure water. And from a not very extensive experience, but sufficiently so to carry conviction to my mind, I think irrigation the very best and most successful treatment of all wounds, in persons of from good to moderate health; for, after all, the condition of the patient—or wounded—in reference to their capacity for the reproduction of tissue from new material, is the factor of most importance in the problem. Persons of active constructive processes—in other words, with good lymphatic systems, furnishing the material in which is stored up the force for the reconstruction of wasting, or wasted, or damaged structure, or structures, from other and new material—with proper food, and a very moderate amount of cleanliness, will

heal up wounds very rapidly; while persons of opposite or feeble constructive capacities, heal wounds with difficulty, and, at all times, very slowly, under any plan of management whatever.

I cannot resist the conclusion that the condition of body, and capacity for repair, in any given case of open wound, or wounds, is of greater importance than the mode or materials with which wounds are dressed. How can it be otherwise than that Prof. Lister has placed himself on a platform too narrow to embrace all the facts concerned in the treatment of open wounds? I do not forget the experience of military surgeons in the treatment of so-called "hospital gangrene," and "gangrene," or "moist gangrene," as distinguished from dry gangrene, during our late civil war. It was to cut and lay open wounds in which gangrene was progressing, especially laying open burrows or sinuses, followed by the application of bromine; then warm poultices. The object aimed at by laying open was to allow pent-up matter to escape; and then, by bromine, to chemically change, not "germs," but material "storing up force," capable of seriously impeding, by its presence, the healing process, or constructive processes, as well as to prevent its introduction into the blood of the patient, and thus putting a stop to "construction" in the whole body.

That the atmosphere is a great reservoir, so to speak, of "germs," ever ready to deposit them on the surfaces of open wounds, and otherwise infect and destroy living bodies, is certainly far too large for even human credence. No life can long exist without it. Millions upon millions of our fellow beings, as well as other forms of animal life, are breathing it constantly. It is the great reservoir into which is poured the gaseous products of the decay of animal and vegetable life; and from whence vegetables get largely of the materials for the construction of their tissues. Pure air and plenty of it, are among the imperative demands

hygiene; and air is purified after contamination by the products of decay, and that is the sole source of its impurities, by physical motion—diffusion—necessary conditions for the decomposition and recomposition of complex gases by sunlight, and the invisible modes of force, where operations are only known by their results. In a word, the “germ” theory is too narrow, too restricted, to contain but a mere modicum of truth. The appearance of these amœbic forms of life, vibrios, bacteria, etc., are results, not causes, of ill-health, or serious disease, so-called. The changed condition of the materials of living bodies in serious disease are conditions for the appearance of these microscopic forms of life in the blood, or fluids, just as mould in dwellings, or on vegetation; and is the result of certain conditions of heat, moisture, and confinement. Here, mould is certainly a result, not a cause. And so of the influence of the atmosphere on open wounds, the conditions of the solids and fluids for the appearance of any of the lower forms of life precedes them. Attention to the general health is of quite as much importance as attention to open wounds by so-called antiseptic dressings.

Some years ago, I received from the author, Dr. Walter, a surgeon of Pittsburg, Pa., a monograph on the treatment of serious wounds, caused by machinery, etc. He treated extensive bruises, compound and comminuted fractures, in fact, all the more serious wounds, by large incisions, to give exit to effete and dead material, with the most gratifying results. His success was so remarkable that he had few amputations, even after the most severe and serious injuries to limbs.

ART. V.—*The Prophylaxis of Scarlatina.* By G. H. HARMAN, M.D., of Lancaster, Ohio.

Can scarlatina be prevented or modified by medication? We think that it can, and Mr. Editor, with the privilege of

the use of your columns, we will proceed to give our reasons for thinking so.

Accepting the germ theory as applied to all contagious diseases, and viewing these germs as parasites, and knowing that we have specifics for many parasites, animal and vegetable, that infect the external and internal body, the question arises why may we not also have a specific for the particular parasite that produces scarlatina. Acting upon the inquiry raised, we selected for trial the hyposulphite of soda.

Was called by Mr. D. to see his little girl, æt. seven or eight years. Found her suffering with headache; pulse and temperature high; skin hot and dry; throat sore and swollen, and profuse rash over upper part of body. Gave pulv. ipecac com. to relieve irritability, and promote the eruption, and solution of pot. chlor. as a gargle for the throat, and immediately put the whole family of children, consisting of five, including the sick one, upon the hyposulphite of soda.

The little girl made a rapid recovery; two others had the disease, but so lightly that they did not go to bed, and two missed it entirely. The result from this trial seemed so favorable that we determined to continue our observations as opportunity offered. Opportunities soon presented themselves in the epidemic which has been prevailing in our community for several months past.

In the following families, upon seeing the first case, the hyposulphite was immediately prescribed for all the children: The drug was administered in solution in syrup and water, the dose equaling about three-fourths of a grain to each year of the child's age; four times a day to the well ones, and every three or four hours to the sick ones for the first few days, when its frequency was diminished. In all cases the solution of pot. chlor. was used as a gargle, and where the throat took on the diphtheritic patching, acid carbol. and tr. ferri. chlor. were added.

In Mr. M.'s family, of five children, four had the disease;

the first severe; the second not quite so severe; two very light, and one missed it entirely.

In Mr. A.'s family, of nine children, only four had the disease; none severe, but the first case was the worst, and was the last to recover, on account of extensive involvement of the glands of the neck.

In Mr. K.'s family, of seven children, four had the disease; the first tolerably severe; the others successively lighter, two remaining up all the time; three escaping it.

In Mr. L.'s family, of three children, two had the disease; first case tolerably severe; the second scarcely noticeable.

In Mr. G.'s family of five children three had the disease, the first not a severe case. Though the eruption was very free, the throat trouble was rather mild, as was also the general disturbance. The other two were mild cases.

In Mr. H.'s family of four children only one had the disease, not a severe case. Three missed it entirely.

In Mr. J. G.'s family of five children all had the disease, the first being a severe case on account of the violent throat trouble. The second case also suffered greatly with the throat, but not so much as the first. Two others were only kept in bed by compulsion, and the fifth remained up all the time. The first one sick in this family was the last to get well.

The surroundings of this last family were extremely bad. The whole family, consisting of nine members, including the five sick (and the children were all sick at once), lived in two rooms, both of which would measure only about twenty-three feet long by thirteen feet wide and seven feet high. Now, if it is possible to condense the poison, the opportunity was certainly afforded here (it may be well to add that the family was not notably cleanly), but the results were almost as favorable here as in more favored families, giving, we think, very strong evidence in favor of the beneficial influence of the remedy.

Now, in eight families we have forty-three children exposed, of which twenty-six, or sixty per cent., contracted the disease, seventeen, or forty per cent., were not affected by it, and not a single death. In every family the first case was the severest, and as a rule the only severe one. If the drug had no influence, why was this always the case? But some will say the character of the epidemic was light. That it was not of that malignant type that sometimes scourges a community is true, but that it was not devoid of danger is proven by the number of deaths that have resulted from it.

That there is value in this remedy as used for the prevention and modification of scarlatina, is to our mind almost if not quite a settled fact. But that it should be so to others can hardly be expected. Therefore, we hope the profession will give it a fair trial and report results. The remedy will then stand or fall according to its merits.



ART. VI.—*Mur. Tinct. Ferri* as a *Diuretic* in *Scarlatina*. By SAMUEL C. HELMICK, M.D., of Commercial Point, Pickaway County, Ohio. Read before the Central Ohio Medical Association, February 7, 1878.

MR. PRESIDENT AND GENTLEMEN: During an epidemic of scarlatina simplex and scarlatina maligna, I discovered, on using *mur. tinct. ferri* for its general tonic effect and for its powerful generative properties of the red blood corpuscle, and thereby acting as an antidote to the resorption of diphtheritic detritus, and for its specific local operation on diphtheritic exudations, that its tendencies were to act as a diuretic.

Its *modus operandi* I will not attempt to explain, but if we take into consideration the pathological changes produced in the mucous membrane of the tubuli uriniferi by the operations of this systemic vice, which is a local manifestation of scarlatina, we can venture upon the probable action of *mur. tinct. ferri* as a diuretic.

The normal functions of the kidneys are almost inter-

ferred with, as we are all familiar, with a shedding of epithelium of the mucous membrane lining the renal tubules. In consequence of this separation we have obstruction of a mechanical character of the tubules.

From the administration of the ordinary diuretics I did not get the quantity of urine desired, but had the quantity diminished rather than increased. During the epidemic this was my observation, and in all cases but one there was general diffusion of dropsical fluid. The administration of ferri was commenced at the outset of the disease, prescribing it to all cases, and continuing until complete convalescence was established. I had complete control of the kidneys in one case by diminishing or increasing the dose as the functions of them demanded. It did not seem to diminish the quantity of albumen or the excesses of the natural constituents of the urine, but simply increased the quantity of urine.

The manner in which it operates, as suggested to me is, that its astringent properties act locally, by contracting the minute blood vessels supplying the mucus membrane of the venous tubules and directly preventing congestion of the connective tissue of the epithelium and mucus membrane proper, thereby indirectly preventing inflammation with its operation of disorganizing the connective tissue; and shedding of the epithelium, with its consequences, are obviated.

In hemorrhage from some of the internal organs, such as the bladder, kidneys, and uterus, it is supposed to act beneficially. Then, after consideration, I must attribute its powers to its astringent properties.

In prescribing many preparations of the pharmacopia, the profession generally gives the maximum dose. But with this preparation they seem to adhere to the minimum dose.

When one and two drachms are recommended, give it, if there is no unpleasant symptoms, either local or constitu-

tional, following its use, and let it be appropriated to the uses of the system, and I am satisfied we will obtain better results.

To corroborate the operation of *mur. tinc. iron* as a diuretic in scarlatina, I was persuaded to give it a thorough trial, as I had obtained good results from it in preceding cases.

The clinical history of the last case coming under my observation during that epidemic, I will give with special reference to the administration of *mur. tinc. ferri*.

Miss L. M., age twelve years, full habit, of a nervous-bilious temperament, was attacked with the usual prodromata of scarlatina maligna, May 10, 1877; 13th, had severe rigor continuing six hours; after subsidence of rigor, raging fever, attended with vomiting of bilious matter; 14th, I was called, found the patient with the eruption general, and well-developed; temperature, $101\frac{1}{2}$; pulse, 130; respirations, 21; tongue presenting the characteristic appearance of "strawberry;" tonsils, red, dry, and swollen; bowels costive; urine scanty and dark red.

The usual treatment was instituted, that of quinine, beef tea, and egg-nog; and for the reduction of high temperature luke-warm baths.

I prescribed *mur. tinc. ferri*, as follows, for this case, with admirable results.

Ten drops, diluted with water every hour, and gradually increased until a normal amount of urine was passed, and there maintained until the stage of desquamation had been completed; for not until that time can a patient be considered safe from kidney complications.

In the cases preceding this one I was confident there were beneficial results as a diuretic following its administration, but was not inclined to credit the iron for its supposed operation. But in this case I controlled the action of the kidneys as effectually and safely as we can the action of the heart in pneumonia with the use of *veratrum viride*, or *aconite*.

This case went on to convalescence without a symptom of anasarca, and I attribute the ultimate and favorable termination without kidney complication to the use of mur. tinc. ferri.

I present this paper to the association for its originality on the therapeutic effect of mur. tinc. ferri as a diuretic in scarlatina.

When we take into consideration the slowness of assimilation of the salts of ferri, I think we are fully warranted in deviating from the usual amount of iron prescribed in cases that call for its administration, and, especially, when it is recommended by such eminent authority. "Dispensatory" says: "This is one of the most active and certain preparations of iron, and usually acceptable to the stomach. Dose is from ten to thirty minimus, which may be gradually increased to one, or even two fluid drachms three times a day."

It is the habit of the profession generally to prescribe it in ten to fifteen, and twenty-drop doses three times a day, and they seldom exceed that amount.

This case tolerated half-drachm doses every hour without the least manifestation of stomach disturbance.

The attack was one of a malignant character, well-marked, the inflammation and its consequent exudations extended into the posterior nares and through the eustachian tube into the internal ear, accompanied by swelling of the sub-maxillary glands of the right side which resulted in abscess with discharge of laudable pus.

The hands and feet shed the epithelium as complete investments appearing like gloves.

Hoping I will induce a trial of this invaluable preparation of the pharmacopia as a diuretic in scarlatina, I close.

ORIGINAL LECTURES.

CLINICAL LECTURES ON SURGERY DELIVERED AT STARLING MEDICAL COLLEGE, COLUMBUS, O., BY J. H. POOLEY, M.D., PROF. OF SURGERY.

LECTURE III.

Tumor of the Male Breast—Cyst of the Neck.

The patient I now present to you, for the last time, is one whose case, no doubt, you all remember, but as I wish to make it the subject of somewhat extended remarks, I will briefly recapitulate the main facts in connection with it. Michael Burke, forty-five years of age, a native of Ireland, and a laborer in a rolling mill, came before us two weeks ago on account of a tumor which had developed itself in his right breast.

He is a perfectly healthy, and very robust and muscular man. Seven or eight months ago he noticed the tumor for the first time, since when it grew steadily, and rather rapidly, up to the time of our first seeing him. On that occasion we found the situation of the right breast occupied by a tumor, as large as the largest-sized hen's egg, but not of that shape, having rather the form of a normally developed mamma of a young girl at puberty. It was hard and firm, quite so, but not stony-hard, like scirrhus. It was freely movable over the pectoral muscle; the skin over it was unattached, except just at the nipple. It was not, and never had been painful, but the fact of its existence annoyed him. He had got into the habit of frequently handling it, watching its growth, and worrying over it, and was anxious to have it removed. He said he had never received any blow or injury in that region, neither was it habitually pressed upon in his usual

occupation ; he could think of no reason for the appearance of the tumor ; he had never heard of any cancer or tumors in any of his relations. The opinion was expressed that the tumor was benign in character, probably either a fibroma, or a firm lipoma, but we declined to venture upon an absolute diagnosis until after its removal. This was done by an operation exactly similar to that for removal of the female breast, and which I need not say anything about—one ligature was applied to an artery that bled rather persistently after the oozing had stopped, the wound was washed out with a solution of carbolic acid, one drachm to the pint of water, closed accurately, with numerous points of fine suture, and a compress and firm bandage applied.

More than half of it healed at once, by first intention ; the rest is now, as you see, well, and to-day he leaves the hospital.

After the removal of the tumor, we made a section of it in your presence, and even then were unable to determine its character, but could only say again it was either a fibrous tumor, or a very firm lipoma, with a leaning toward the latter opinion. We have now the results of a careful examination made by Dr. Frankenberg, our Professor of Pathological Anatomy.

The Professor says: "Microscopical examination of the tumor removed from Michael Burke, and referred to me for examination, shows that its elements are fibrous tissue in abundance, fat cells containing oil, and occasionally a collection of small cells, some of which are of an irregular shape, others round. The fat cells are arranged in layers extending through an entire section, and separating the fibrous tissue or stroma, but there seems to be no regularity in the arrangement of these fat layers, but whenever they are found they are somewhat extensive. Cavities are also found which resemble those of acini found in the gland tissue of the breast, lined with epithelial cells. The small cells

spoken of above are grouped together in masses varying in size; they appear to be leucocytes with granular matter."

From this description, it appears that our tumor was an unusually firm lipoma, that is, one with unusual development of fibrous tissue or stroma developed in the rudimentary gland tissue of the male breast, and probably by its presence and growth provoking some hypertrophy of that tissue.

Now, gentlemen, this is a very interesting case—interesting from its rarity, for all tumors—all diseases of the male breast—are more or less rare. To show you how rarely tumors are met with in the male in this region, I may mention that Dr. John Chiene has collected, in an article in the *Edinburgh Medical Journal*, for July, 1871, all the cases of tumors of the breast admitted into the *Edinburgh Royal Infirmary*, under Mr. Syme's care, during a period of thirty-six years, from 1833 to 1869, and from this record it appears that in a total of 247 cases only two were in the male. One of these was a fibrous tumor, removed with successful result; the other a scirrhus tumor, which returned *in loco* in a year. Very few men have ever had such a clinical experience as this of Mr. Syme, and if he found only two tumors of the male breast, we may conclude that they are rare enough to be of interest.

Dr. John C. Warren, of Boston, whose field was extensive and his experience enormous, and who wrote a work on tumors, only refers to two cases of tumor of the male breast, and Dr. J. Mason Warren, in his work entitled "*Surgical Cases and Observations*," only mentions one case of the kind.

You find very little information—indeed, I might say none at all—in the ordinary text-books of surgery on the subject of diseases of the male breast, and not much more in the special works of Velpeau, Birkett, and Astley Cooper.

Such being the case, and our attention being called to it by the patient before us, perhaps it will be both interesting

and profitable for us to spend some little time upon the subject.

This rarity of disease in the male breast is owing, of course, to its small and undeveloped state, and absence of function, the general rule being, that organs of the most perfect development and greatest functional activity, are most subject to disease. Hence, the great liability of the female breast to various forms of inflammation, tumor, and cancer. Generally speaking, the male breast is in so rudimentary a condition as to escape recognition altogether, the mamilla and its surrounding areola alone marking the site of the organ. But, however small and undeveloped, the rudiments of a gland do exist, and in certain exceptional cases, and in some instances of disease, become quite conspicuously developed.

All authors on the subject mention individuals of the male sex in whom the mammary development has been remarkably full, though many of these have no doubt been mere local development of adipose tissue, or at least principally such.

Sir Astley Cooper gives a detailed account of a young man whose breasts were unusually developed, and remarks that he was of a slender and effeminate form, and that his testicles were remarkably small, and hints his belief that this will generally be found the case in such instances.

Not only has large size of the gland sometimes been noticed in masculine subjects, but true functional activity or secretion of milk has been observed in quite a number of authentic and undoubted instances. Dr. Young communicated one case to Sir Astley Cooper, and Humboldt, Franklin, Dunglison, Blumenbach, and others relate cases. The fullest account of this kind that I know of is one by Dr. Schmetzer, of Heilbronne, in Schmidt's *Jahrbucher*, for 1837, and quoted in the American edition of "Cooper on the Breast." The subject of it was a sanguine, robust soldier, twenty-two

years old. When eighteen years old he often felt a pricking sensation in his breasts, and slight periodical colic. About a year later, after each occurrence of such symptoms, a slight swelling of, and milky discharge from the mammæ; and during work, his shirt was several times a week wetted with it. When in the hospital for acute rheumatism a considerable quantity of milk was found to be secreted. On examining the breast and nipples, the latter were found highly red, erectile, and somewhat cracked at their apices, and much higher than in men generally, and surrounded by a somewhat darker areola, through which a subjacent, vascular network could be seen. On pressing the papilæ, two or three fine streams of milk would jet out of minute orifices; it had a bluish-white color, and a very sweet taste. The secretion was constant, but increased at various periods, especially at night, producing a somewhat painful sensation until it was evacuated. The usual quantity was from half an ounce to an ounce daily, but sometimes not more than two or three drachms.* On one occasion a wineglassful was drawn off, and in the fortnight that he was under observation, ten or eleven ounces were secreted. After the evacuation of it, he said he always had headaches, faintness, and sometimes pains in the abdomen. Diet had no material influence on the secretion. Collected in a glass and left quiet, cream soon separated, and sometimes the milk at once coagulated. After some hours standing, the butter separated and floated at the top in yellow drops. The milk had a slightly alkaline reaction. Its specific gravity was 1.024.

In this case we see that, though there was an undoubted and continuous secretion of milk, it was in small quantity, and I think it highly probable that the stories of men who have suckled and nourished infants at their own breasts are to be taken with many grains of allowance. Ordinarily, as you know very well, only two mammillæ are seen; one upon the anterior surface of either pectoral muscle, and over the

fourth ribs. Deviations from the normal number are, however, seen, and Birkett says he has collected four cases, and witnessed one himself. The following is the account of the case he saw, which was in an adult male, two nipples being in the usual situations, and two below, over the fifth ribs. The two abnormal nipples were smaller than the others, but the areolæ were distinct. One female child, the progeny of this man, the fourth, was born with four nipples, but she lived only to her fifth year. Of twelve children she was the only one inheriting this peculiarity. With the man, as far as his inquiries extended, it was not hereditary.

In young infants, male equally with female, there is often an engorgement of the breasts, with a milky fluid. Sir Astley Cooper seems to have considered this as a constant phenomenon; but in this no doubt he was mistaken; it is, however, very common.

This of itself is a matter of no consequence, but very often officious and ignorant nurses and mothers in their efforts to milk and squeeze out this fluid provoke by their manipulations inflammation, and even abscess of the mam-mæ. I have been obliged to open many such abscesses, some of them of quite large size. You ought to know about this that you may warn the attendants against their pernicious interference. Should the breast seem to be distended and irritated with this secretion, very gentle rubbing with a liniment of sweet oil and belladonna will suffice to disperse it. Should the heat and redness show that inflammation is imminent, or has actually taken place, you may try to prevent abscess by the application of cooling lead lotions, or, failing in this, apply a warm poultice, and when the matter is perfectly apparent make a slight puncture and evacuate it. At the period of puberty, it occasionally happens in the male, as well as the female, that the breasts enlarge and become somewhat painful. This generally subsides in a short time, and needs no attention, but now and

then more or less enlargement remains permanent, and it is said, that when this has been confined to one side, such breasts have been removed on suspicion of cancer. Concerning this enlargement of the breasts in young men, there is a very curious passage in Paulus Ægineta, which I give you from the Sydenham Society's translation, by Mr. Francis Adams, together with the commentary of the learned translator :

"As at the season of puberty the breasts of females swell up, so in like manner those of the males also swell to a certain extent; but for the most part they subside again. In some cases, however, having acquired a beginning they go on increasing, owing to the formation of fat below.

"Wherefore, as this deformity has the reproach of effeminacy, it is proper to operate upon it. Having, therefore, made a lunated incision below the breast, and dissected away the skin, we unite the parts by sutures.

"But if, as in women, the breast incline downward, owing perhaps to its magnitude, we make in it two lunated incisions, meeting together at the extremities, so that the smaller may be comprehended by the larger, and dissecting away the intermediate skin, and removing the fat, we use sutures in like manner. But if through mistake we should cut away too little, we must again remove what is redundant, and apply the remedies for fresh wounds."

"Commentary: The description given by Albucasis is so like our author's, that there can be no doubt of its being borrowed from him. When there is a great redundance of fat and flesh, he directs us to make two lunated incisions, the larger comprehending the smaller, and having dissected away the intermediate skin to unite the edges by sutures.

"Haly Abbas repeats the same description in almost the same words. Rhases recommends the operation upon the authority of Antyllus and our author."

Whether we are to conclude with Velpeau, from this re-

markable passage, that the enlargement referred to was common among the ancients, I cannot decide, but one thing we may safely do, and that is, to disregard the recommendations of these ancient authors, and omit this operation from modern surgery.

Not only at the infantile age, but at all periods of life we may meet with abscess of the male breast, but after infancy it is very rare.

Heister mentions having opened such an abscess, which discharged two pounds of matter. Bransby Cooper also mentions a case, of nearly the same magnitude. Such abscesses may be caused by local violence, as from a blow, or arise spontaneously; but however they originate their treatment is the same as that of purulent collections elsewhere, and does not need any particular description. They are much milder in their symptoms, and less liable to be followed by intractable sinuses than abscesses of the female breast.

Though information on the subject is very meager, I think we may say that of tumors of the male breast the malignant are the most common—two to one. Schirrus is the common form of cancer in this situation, though both epithelioma and encephaloid have been met with. There is nothing peculiar in these cases that need detain us, except to remark that it seems to be the fact that malignant disease advances much less rapidly here than in the female breast, nor is so likely to return, and when it does, not so quickly; the prognosis, in short, is better.

Among the benignant tumors we find enumerated by authors—cysts, very rare; adenoid tumors, butyraceous tumors, very rare; calcareous tumor, one example, by Morgagni.

I do not know of a recorded case exactly like the one that we have had before us, but, as I have already said, the subject is a difficult one, information upon it being scanty, and hard to get at, so that we cannot advance any very dogmatic

statement, but could not let so rare an opportunity pass without some attempt to improve it.

CYST OF THE NECK.

The patient we now introduce was before us three weeks ago, with a large tumor of the neck, and to-day he comes to show himself, entirely cured. His name is William Kinney, native of Ireland, laborer in a foundry, age, 41 years. About a year before his first visit to the clinic, he began to notice a swelling on the right side of his neck, just below the angle of the jaw, and behind the sterno mastoid muscle. It had grown steadily, and at the time of his visit was a large, conspicuous, and disfiguring tumor, measuring four inches in its longest, and two in its shortest diameter. It was perfectly smooth and regular in its outline, free from lobulation, tense and firm, but not hard in consistence.

It gave an obscure feeling of fluctuation, and yielded, upon exploration with the needle of a hypodermic syringe, an ounce of clear, straw-colored fluid, thus settling definitely its character as a cyst or hygroma, or, as it is sometimes rather awkwardly called, hydrocele of the neck. The subjective symptoms connected with this tumor were slight, but rather peculiar and characteristic; there was very little—scarcely any—pain, but a feeling of disagreeable fullness in the head, sometimes connected with buzzing or whizzing noises, and when he stooped down, as he was obliged to do at his work, these became so severe that he was at last compelled to relinquish his employment. You recognize in these phenomena, of course, evidence of interference with the return circulation from the brain. He had painted the surface of the tumor persistently with tincture of iodine, and also taken some medicines, of the nature of which he was ignorant, internally, all to no purpose.

Having satisfactorily established the diagnosis, I proceeded in your presence to introduce a medium-sized trocar, through

which I evacuated three ounces, by measurement, of a clear, straw-colored, slightly viscid fluid, which was highly albuminous, becoming nearly solid upon the application of heat, but under the microscope showed a complete absence of structural elements. The trocar was introduced at the lowest part of the tumor, about half way between the mastoid process and the clavicle, and after the evacuation of the fluid, was left in situ, while an eyed probe was passed through it; the end of the probe was thus passed along the sac and made to protrude the integument at its upper end, when a slight incision—a mere puncture in fact—was made through the intervening tissues, the probe passed through, and by its means a seton, consisting of four strands of coarse ligature silk, with which its eye had been threaded, drawn through the longest diameter of the tumor, and tied loosely over the outside. This operation was performed on a Saturday, and I saw him every day afterward, and moved the seton to and fro, until the following Tuesday evening, when the inflammation resulting from it was quite marked, and it was withdrawn.

The tumor at this time was about half as large as it was at first, and hot and red, with a few drops of pus exuding from the lower puncture. It was evident to a careful palpation that a good deal of the swelling present at this time was in the tissues outside the cyst. This inflammation and swelling soon subsided, and the man presents himself to-day absolutely cured of a serious and deforming tumor, with no scar, scarcely any pain, and absolutely no danger in the process.

Tumors of the neck are among the most interesting and important of all surgical diseases. They may be divided, for convenience sake, into the solid and the cystic, with the latter of which only we shall concern ourselves at this time.

And first among these we have to speak of the cystic degenerations of the thyroid body, the so-called cystic goitre

or bronchocele. These consist of cysts of greater or less size, developed in an already enlarged thyroid. Their size is various; sometimes they present themselves as numerous small sacs disseminated through the substance of the bronchocele; again they may occupy its centre, their parieties consisting of the thickened tissue of the enlarged thyroid; or they may be grafted upon it as it were, or developed from its exterior. Their size is sometimes very great, and, occasionally, by growing inward as well as outward, they press upon the trachea and interfere with respiration. Their contents are very various, sometimes blood, sometimes clear yellow serum, but more frequently a thick, glairy, sticky fluid, of a dirty brown or gray color. They may be diagnosed by their situation, by rising and falling with the larynx in the act of deglutition, by a feeling of fluctuation more or less distinct, and by the use of the exploring needle or trocar. But they often escape recognition, and are confounded with the other forms of bronchocele, on account of their depth from the surface, and not only the thickness, but also the soft, spongy character of the overlying tissues. Their treatment, as far as they require any treatment aside from the general treatment of the goitre, consists in the evacuation of their contents. But it is not of cystic goitre, to which I may sometime return in connection with the general subject of enlargement of the thyroid, that I wish to speak now particularly, but of the other forms of cyst of the neck. Of these I may just mention, as rare forms, the pre-laryngeal bursal tumors, and bursa of the hyoid bone, which are so seldom met with that I do not deem it best to complicate the subject by any attempt at a thorough description of them now. The cysts of the neck most commonly met with, are found in the lateral cervical regions, and resemble in all essential particulars the case which we have been studying together, and which has prompted these remarks. Their pathology, I must confess, is to my mind

quite obscure. Whether they are degenerations of a peculiar kind of cervical lymphatic ganglia, sacs formed by inflammatory isolation of certain areas of cervical fascia, or entirely new formations, can not be definitely asserted. But one thing seems highly probable; that is, that as they differ in size, shape, and contents, they also probably differ in origin.

Occasionally, cysts, like those of other parts of the body with steatomatous or melicerous contents, are found here, but they are not common. And why these larger and peculiar cysts should affect this region by preference, we can not say.

Some years ago, I met with a man who had, on one side of the neck, near the median line, but unconnected with the thyroid body, a cyst as large as, and very nearly the shape of, a goose's egg, projecting from the surface, as though the egg had been attached by its smaller extremity, and with a tendency to become pendulous. I wanted him to let me puncture it, but he refused, and told me that some time before a celebrated New England surgeon had punctured it with a pretty large trocar, and nothing but blood had come out, but this had come out in such quantity and with such persistence that he had very nearly lost his life by it, and he was determined not to have it meddled with any more; and no doubt he was quite right. The hemorrhage in this case may have been from some thin-walled and dilated vessel in the cyst, which gave way from the sudden withdrawal of the fluid support from within. The man's account was too vague to enable one to judge definitely; but this is one of the possible dangers in such cases.

When these cysts are small and deeply situated, their diagnosis is difficult, sometimes impossible, without the use of the exploring needle. This was the case in a patient under my charge last summer—a young lady, in whom there was a deep-seated and ambiguous swelling of small size, situated under and projecting slightly behind the sterno mastoid

muscle. Exploratory puncture showed it to be a simple cyst, and it was cured by the injection of a few drops of tincture of iodine with a hypodermic syringe. The diagnosis of one of these tumors would rest upon the following points: the swelling in one of the lateral regions of the neck, smooth, unlobulated, round or more generally ovoid in shape, tense rather than hard in feel, sometimes with fluctuation, more often without or with this symptom obscure, yielding somewhat to firm pressure and then returning to its shape when the finger is withdrawn. Though such an assemblage of symptoms as this might suffice to establish the diagnosis, still it will always be better to confirm it by a careful exploratory puncture, avoiding, of course, the vicinity of large vessels or superficial veins. With such precaution, and a small instrument, exploration will always be safe and proper.

The prognosis of these tumors is concerned only with their unsightliness, and such unpleasant symptoms as arise from interference with circulation from pressure; they do not increase indefinitely as a rule, and rarely reach a size much larger than in our patient. The most considerable exception to this with which I am acquainted is a very large one recorded by Dr. J. Mason Warren, which reached from the mastoid process to the clavicle, and from the trachea to the vertebral column.

With regard to treatment, four plans present themselves for consideration—excision, incision, injection with tincture of iodine, and seton. We leave out of view altogether external applications, and the administration of medicines, as unworthy even of trial.

Excision is to be avoided, if possible, as it is a difficult, severe, and dangerous operation. Though these growths seem to be freely movable, and unconnected with the deeper part, this is frequently delusive, and the posterior wall of the cyst is often firmly matted to important veins, arteries,

and nerves, so that its dissection would be exceedingly tedious and precarious. Besides, such an operation has the disadvantage of leaving a very disfiguring scar. It is, therefore, to be avoided, if possible.

Free incision of the growth, and stuffing with lint, that it may fill up with granulations, is equally objectionable; indeed, more so, as being less radical and certain. It would leave even a worse scar, would involve long suppuration, which might extend to the deep fascia of the neck and become dangerous. Unless it be in some rare emergency, it is to be condemned.

Injection of these cyst with tincture of iodine is an excellent mode of treatment, and deservedly in high favor with surgeons. I do not know with whom it originated. At a recent congress of German surgeons, Esmarch spoke very strongly in favor of it, and mentioned a number of cases in which he had used it successfully. The details of the operation are very simple. After the evacuation of its contents, the cyst is injected with a small quantity of tincture of iodine, proportionate to its size, which is brought in contact with all parts of the interior by gently rubbing and kneading the tumor. It causes more or less active inflammation, often with slight suppuration, and final disappearance of the disease. But it is not infallible. It sometimes fails, and sometimes it sets up an undesirable amount of inflammation.

The plan of treatment by the introduction of a seton, which we have used with such gratifying success in this patient, originated, I think, with some French surgeon, whose name I have forgotten, about 1836 or 1837. This, certainly, is a very excellent mode of treatment, and if it always acted as perfectly as in the present instance, would leave nothing to be desired. But it, also, fails sometimes. At a meeting of the Philadelphia College of Physicians, held January 17, 1872, Dr. Walter F. Atlee reported a case of

this form of tumor occupying the submaxillary region on the left side. The patient was a young man, aged twenty-five years. The tumor was about the size of a goose-egg, and had existed for several years. For more than a year attempts had been made to effect a cure by means of a seton, injections of iodine, and by repeated tappings. Extirpation, which had been delayed on account of its extreme difficulties and dangers, was finally resorted to, and the patient recovered. It seems to me that extirpation should be confined to cases like this, in which other means have been tried and failed.

As between injection of iodine, and seton, both excellent plans, both supported by the authority of great names, and with both of which I have obtained perfect cures, have we anything to guide us to a choice? Yes, I think we have. Where the tumor is large, particularly where it is of such a shape, and so situated that a large portion of the cyst is in contact with the deep structures of the neck, the seton is to be preferred, because we can withdraw it at pleasure, and thus, to some extent at least, limit the amount of inflammation which is set up, whereas the tinct. iodine once injected, we have no control over the result, which, in such cases as those indicated, may proceed to an undesirable extent. If, however, the tumor is small, or has but a limited attachment, we may, perhaps, prefer the tinct. iodine, as rather less painful and annoying to the patient. Whichever of these plans of treatment is resorted to, if it fails, we should then try the other, and failing in both, then have recourse to extirpation.

CORRESPONDENCE.

NEW YORK, January 18, 1878.*Editor Ohio Medical and Surgical Journal :*

DEAR DOCTOR: Of the New Jersey medical students, if any such exist, I know nothing. I beg you, therefore, to excuse me if I request you to allow me to correct a typographical error, which I find published over my signature in the last number of your JOURNAL. If you will please refer to my last manuscript sent to you, you will find that I spoke of the N. Y., meaning New York medical students. In my account of the disgraceful affair that occurred in this city by arresting two zealous disciples of Æsculapius, in consequence of a little indignation manifested by them on the occasion alluded to in my last letter, I gave it as my opinion that the parties, whoever they may be, who rented the lecture room of the New York College of Physicians to men who are justly known as quacks, and who dare to insult those who devote themselves to the study of alleviating human suffering, and to prolong human life, have shown a lack of sound judgment by doing so in return for a few paltry dollars and cents. I have seen service in the armies of freedom under the leadership of Garibaldi, Klapka, Türr, and Kosuth, in Italy; and in this country during the war of the rebellion, and I have had the honor of a personal acquaintance and friendship of Giuseppe Mazzini, Horace Greeley, and John O'Mahoney, who, alas, are no more. I have all my lifetime advocated free speech, free conscience, a free press, and equality of all men before the law, without distinction of race, creed, nationality, or station in life. I should never hesitate to condemn any one who disturbs a public meeting where expression is given to thoughts that might ever so

much be distasteful to some one in the audience who entirely disagreed with the views enunciated by a speaker or writer. But, sir, when at such a public meeting, our noble profession, and an institution of learning like that of the New York College of Physicians, is being insulted by such remarks as I have communicated to you as having been uttered at a meeting of the New York Liberal Club; *then* forbearance becomes a sin against manhood and common decency! In the very room where the studious young men congregate for the purpose of imbibing knowledge, and to be taught that true science and art which extends its helping hands to the rich and poor, to the old and the young, the high and the low, during their hours of pain and suffering, an unscrupulous person is allowed to utter such words as "You are given here a license to murder wholesale," then demonstrations of any kind, even chastisement of such a person pronouncing such a libelous and outrageous charge, is justified in the eyes of all liberty-loving people. Instead of making a noisy demonstration, the students should have taken the offending member of the Liberal Club by the neck and sent him flying into the street, as a warning to other slanderers whose tongues are made use of for the purpose of pronouncing falsehoods and abominable lies! Brazen quackery is here, alas, too often treated with silent contempt, without any effort on the part of the regular profession to bring the culprits who trifle ignorantly with human life and happiness, trying to suck, hyena-like, the very life blood of their victims, to condign and well deserved severe punishment.

It is high time, sir, that the medical profession should sound the alarm and confront quackery openly wherever found. You are, no doubt, familiar with *Æsop's* fables, wherein we are told that an ass put on a lions' skin, and went about the forest frightening all the animals to death, who, laboring under the deception that it was a *lion* who was

after them, ran for their lives, until the owner of the ass came along, and, hearing the braying of the beast, recognized him at once as having run away from his master, and took a club near at hand, and chastised the *ass* to his heart's content. Quacks are in my judgment no better than the ass in this fable, who put themselves in lions' skins, and, when their braying is heard and they are recognized, they should be severely chastised. But how can these sharpers impose upon an intelligent public? you will ask. The answer to this question is not difficult, and I will attempt it by quoting an anecdote, which I heard many years ago. It is this:

The celebrated English surgeon, Abernethy, walking one fine day along one of the principal streets of London, the great metropolis of England—through Oxford or Regent street, I have forgotten which—and noticing a large number of carriages loaded with apparently sick people, belonging to the wealthier classes of society, who waited to be admitted into an office of a surgeon, whose name was displayed in large gold letters in front of the same, but which was entirely unknown to Abernethy, who knew all the great practitioners of medicine of that city; and wondering who it could be who had such an extensive and apparently large and remunerative practice, stepped inside the office and asked to see the doctor. After patiently waiting for hours for his turn to be admitted into the savant's presence, what was his astonishment to find his former coachman and bootblack, attired in the highest of fashion, bidding him enter into the private office. "Why, John," said the astonished Abernethy, "you must have found here an excellent situation with this physician, who must no doubt be very skillful, though I do not know him. Pray do tell me who is he and where does he come from?" The former bootblack smilingly informed his former master that he himself attracted all these people, and he was the doctor whom Abernethy desired to see. "Are you astonished at this, sir?" asked John, "Why, the whole

mystery of my success is easily explained. May I ask you to look through that window, and to tell me how many persons pass it daily?" "That," said Abernethy, "I could hardly tell; I should suppose at least twenty thousand." "And how many of these, in your judgment, which the world knows to be a correct one. are sensible people?" "I should think about one hundred of these are probably persons of good sense." "You are right, sir," said John, "the one hundred sensible persons, if sick, consult you and other reputable physicians, and the remaining nineteen thousand nine hundred are fooled and robbed of their money, and are being injured in their health and lives by just such imposters as I have to acknowledge to you, I am."

The same reason for his success, which John gave to Abernethy, prevails to some extent in New York. Ignorant, unscrupulous, and unprincipled men and women, in large numbers, prey upon the credulity of their deluded victims! They put out signs, with fictitious names, in front of their houses, and advertise these, and their infallible remedies, in the daily, weekly, and monthly papers, as *cure alls*! Men and women, of apparently sound minds, will consult and pay out their hard-earned money to spiritualists, clairvoyants, mesmeric, and rheumatic doctors! Lately I have noticed a nickel-plated sign, of huge dimensions, where a Dr. Chandler and Dr. Weber announce to the world that they have established a "rheumatic fever society" at 207 West Thirty-fourth street, in this city. I have not the distinguished honor of knowing these two pretenders, who, I know—and I am responsible for what I say—have assumed two names of highly eminent men; the one a professor of chemistry, and president of the New York Board of Health, the other of that of an accomplished German practitioner in this city, who read a paper before the surgical section of the the New York Academy of Medicine, "On abscess of the vermiform appendix, with four cases successfully treated by

operation." Down with all falsehood! Down with all shams and pretenders! The so called shyster is not allowed to practice law in the courts, but the shyster and blood-sucking viper in human disguise is allowed, without punishment, to inflict himself upon the, alas, easily deluded community! It is high time, sir, that every high-minded physician constitute himself a detective to ferret out these pests of society and to demolish them, and to wipe them from the face of the earth! People do not patronize a tailor, who cannot, and does not know how, to cut and make a garment; they do not go to the carriage-maker to have their broken watches and clocks repaired, because they do know, as a rule, and become soon convinced, that a shoemaker, or a joiner, or a cigar-maker does not understand the business of a watchmaker. People do not employ a wood-chopper to teach their children the art of painting or music; but they will employ a billiard-marker, a grocery clerk, or a cracker-baker as their doctor! Why not introduce a law, similar to that of all civilized countries in Europe, that no one be allowed to practice medicine without having given satisfactory proof before a properly constituted authority, of his capacity and fitness to make a diagnosis in a given case; that he is capable of describing, minutely, every constituent particle composing the animal frame; that he has devoted time and labor to the acquisition of that knowledge and skill that constitutes the scientific physician. Who shall take the initiative if not the physicians themselves? Expose quackery wherever it is found! Tear from their faces the masks they wear, and their nakedness will easily demonstrate their barefacedness, and their infamous trade will come to a sad and well-deserved end.

"*In sano corpore, sana mens.*" If we aim at reforming society—and you will permit me to say, sir, it is the duty of every individual to contribute his or her share toward the moral, mental, and physical improvement of the society we

live in, and thereby contribute toward the advancement of human happiness—who else than the medical profession, and the medical press in especial, is in duty bound to guard against abuses affecting the health and the lives of the people? If the community remains strong, hearty, and healthy in body, it will also be strong, hearty, and healthy in mind; we can then withstand the vicissitudes of weather and climate; we can keep off the approach of disease, if we are taught how to do it. Our body politic will become sounder than it is now, and a healthy, stalwart race will be able to labor and to produce tenfold more than a decrepid, effeminate, sickly one could do. Economy, prudence in all things, a higher intelligence, will surely follow in the foot-path of more correct views regarding ourselves, if we know and teach others to know how to live, what to do, and what not to do. Stamp out quackery, and let the true physician busy himself with the solution of this question, how to prevent disease and how to live in order to be happy. Let not our principal aim and study be directed towards the question, how to cure disease, but how to prevent it. I do not say "*post hoc ergo propter hoc*," because I have pointed some of the causes producing the frightful and avoidable death-rate in this city, on account of the neglect of the authorities here to do their duty, but it is a remarkable coincidence that, after the publication of my letter in your esteemed JOURNAL, a general stir about took place in this city, from his honor the mayor down to the health board and the street-cleaning department, that has never before been seen in this city. The whole press of this metropolis took up unanimously the question of general cleanliness about our streets and houses, and I hope some good will come from it. Perhaps the publication of the few remarks I have ventured hastily to write down will arouse all interested in the matter to make a crusade against *quackery*.

Dr. D. D. Goodwillie, of this city, read at the last session

of the State Medical Society, at Albany, "A paper on the salivary glands, some of their diseases and treatment."

He called attention briefly to the anatomy and physiological structure of the three principal salivary glands.

He desired more particularly to present the disease of the lobes and vesicles of the glands, and his manner of treatment by *constant, gentle, elastic pressure*.

He exhibited a wax model of a cast as an illustration. Suppurative inflammation of the parotid gland, with a fistulous opening below the angle of the jaw. The result of pulpitis, periostitis, and necrosis of the alveolar process. Duct of steno in normal condition. Treatment as follows: Opened freely the sinus to all parts of the gland involved; applied a pad over the gland made of sheet-lead, inside of which was put plaster of paris; this plaster was renewed as necessity required. This pad was attached to a spring that went over the other side of the head, and held in place by a leather strap around the head. The object to be accomplished by this truss was to bring *constant, gentle, elastic pressure*, in order to relieve all the lobes and ducts of the products of inflammation within their walls, and such lobes as have undergone degeneration; to prevent the flow of blood to the gland as much as possible, and, lastly, to decrease the secretion of saliva in any normal lobes, and thus prevent irritation from its presence.

The treatment was quite successful, and can be applied by proper apparatus to all the salivary glands where the lobes are involved.

Dr. Goodwillie exhibited wax models of obstruction of the ducts by calculi, sebaceous material, etc.

Want of time prevents me from giving you abstracts of numerous excellent and valuable contributions to medical literature, which it has been my good fortune to have listened to before our medical societies. A full report of what I deem worthy of publication, I will communicate to you in my next.

Yesterday, January 25, the remains of one of my best friends, an ornament and the just pride of the medical profession, were taken to their eternal resting place! Alas, the late Professor Edmund R. Peaslee, of Bellevue Hospital Medical College, and one of the surgeons of the New York Woman's Hospital, etc., is no more. Words can not express the feelings of regret felt by myself and his many friends in this city and elsewhere, where the great author on the diagnosis, pathology, and treatment of ovarian cysts was so widely known, on the occasion of this great man's death. Spencer Wells and Baker Brown, of London; Keith, of Edinburgh, and Koeberlé, of Strasbourg, are perhaps the only four men on the face of the earth who equaled, but did not surpass him. Tears will not avail in bringing him back to us, and we can only say, *requiescat in pace*. Peace to his ashes. His great name will live forever. Peaslee has achieved immortality as a human benefactor. My heartfelt sorrow at the loss of my departed friend, I cannot attempt even to describe. I, therefore, pray you to do for me what I intended to do in this letter, viz.: to say a few words about the life and the work done by E. R. Peaslee, and thus oblige,

Yours, truly,

RUDOLF TAUSZKY.

MISCELLANY.

[In this department it is designed to present the medical news of the day, announcing everything which is at all likely to be of service to our readers. Those physicians who have not time to report cases in full, with remarks, will find this a convenient repository for the principal facts or for such inquiries as are of general interest.]

DR. FRANK ALPORT

Has written an instructive article in the *Chicago Medical Examiner* on "The Use of Cold and Heat in Fevers." The obvious aim is to lessen the temperature. His conclusions in favor of warmth to effect this, are tabulated as follows:

HEAT.	COLD.
No shock is experienced in applying the remedy.	A shock is experienced.
Perspiration soon follows the application of heat.	Perspiration does not take place for some time after cold has been applied and is <i>dependent upon a reaction</i> , which may or may not take place. In the latter event a fatal result is apt to occur.
A gradual decline of temperature is observed.	A sudden and great decline of temperature is observed.
The temperature is not apt to rise above that registered at the commencement of the application, after the same.	The reverse is the rule.
Profuse perspiration is produced, and it does not require, to keep the temperature down, as many applications per diem as with cold.	Only a gentle perspiration is produced.
Only a reasonable amount of care and watching is required.	Directly the reverse is true.

VOMITING IN PREGNANCY.

No pregnant woman need suffer from this any longer if we may credit our exchanges. The first cure comes from France. In a young woman, "iced-drinks, alcoholic liquors, champagne, bitters of various kinds, antispasmodics, tonics, opiates, bromide of potassium, chloral, belladonna, etc., were tried without benefit." One grain and a half of tannin was then given in a pill, which did the business. The next cure comes from Belgium, as we learn from the *Louisville Medical News*: As soon as symptoms appear, a "douche of pulverized ether should be directed by Richardson's Spray Producer against the epigastric region and the corresponding part of the vertebral column. The douche should be prolonged for from three to five minutes, or even longer, and repeated every three hours. In obstinate cases it should be alternated with douches of chloroform." In the *American Journal of the Medical Sciences*, Dr. Busey calls attention to Girabatti's method of enemata of bromide of potassium, which is unlike the other remedies in being rational, and as far as heard from, always successful when properly used. Last, but not to be overlooked, is the ventriculus callosus gallicus. If it is like its name, it certainly could not be thrown up without a mighty effort.

HYSTERIA.

In a lecture on the New (?) Sensation Mettallo-therapy, at La Salpetriere, Paris, M. Charcot draws a vivid picture of hysteria, which we extract from his lecture in the *London Lancet*:

The conditions in which a medical man is generally called upon to give his opinion are usually the following: The case, we will say, is that of a young girl of seventeen or eighteen. If you are the family doctor, you have been able to watch the origin and progress of this ovarian hysteria, which is often ushered in by preliminary symptoms. A little girl about seven years old begins to cough and goes on coughing for two months without any known cause. An experienced physician recognizes at once

that he has not to deal with a case of bronchitis, but with one of hysteria. Then the little girl is all at once affected with stiff neck, which may last one or two days. There is a talk of torticollis; but a month afterwards the same stiffness of the neck supervenes, and lasts a day and a night. Then hysteric torticollis is made out. Or, again, a most characteristic symptom is observed. The child's leg becomes stiff and painful. This is hysteric contracture. The patient is an intelligent little girl, with brilliant eyes, very clever—in one word, a little phenomenon; and her parents are quite proud of her.

Things go on pretty smoothly till menstruation. Then the child begins to get peculiar—to have curious ideas. She is alternately sad or cheerful to excess. Then, one day, she utters a cry, falls to the ground, and presents all the symptoms of an attack of hysterо-epilepsy. She begins to assume various postures, to speak of fantastic animals, to mention words that are neither suitable to her age nor to her position in society, but which she has simply overheard and which are often coarse. These symptoms occasionally show themselves with such intensity that the young patient is evidently in what is called a “fit.” From morning till night the household is in confusion, and it takes four or five people to restrain her. The situation becomes intolerable. The medical man gives bromide of potassium in large doses. He exhibits assafoetida in sufficient doses to infect all Paris; he prescribes castoreum and other drugs; and all this absolutely to no purpose. Bromide of potassium in grave hysteria is useless, and herein there is a marked difference between hysterо-epilepsy and epilepsy. In epilepsy bromide of potassium will sometimes work wonders; but the more wonderful its action the more the presence of epilepsy is shown and the less hysterо-epilepsy. For myself, I have always vainly attempted to soothe the intensity of the fits of hysterо-epilepsy with the bromide. I have given upwards of three drachms and a half a day without the slightest effect. At any rate the medical attendant and the family are soon in a very difficult position, and then it is that the opinion of a consulting physician is demanded.

When I am called in under such circumstances, the first thing I do is to practice compression of the ovary, and, to the utter astonishment of the parents, and, perhaps, also of the medical attendant, all the symptoms cease as if by magic. The young patient returns to consciousness with a look of surprise. But as soon as the compression is stopped the “fit” begins again. Consequently, the treatment is not of any lasting value. On one occasion, however, I asked the family physician to repeat the compression morning and night, and in twelve or fifteen days the patient had got out of the habit of her attacks. Compression of the

ovary resulted in exhausting the nervous fluid, and the "fit" was stopped. Subsequently, however, there was a recurrence of it. Therefore, compression does not constitute a treatment of the diathesis, for hysteria is eminently a diathetic nervous disease. When you come across a case of hysterio-epilepsy you may safely conclude that it is not a mere transitory condition, and in these cases I always say to the mother, "Madam, we cannot attend this child at home." And I say this because I have observed that in these cases the mother is to her child like a Leyden jar—they load each other, and usually the mother herself becomes a victim.

There are medical men who think that the phenomena of hysteria as mere malingering. It is not so. But you must not forget, however, that it is a characteristic of hysterical subjects to exaggerate their phenomena, and they are more prone to do so when they think they are observed and admired. You will hear mothers say: "My daughter has fits like nobody else; when the child is in a fit she says extraordinary things." It sometimes happens that the child will not eat; for there is a particular state of nutrition in hysteria. Hysteric subjects excrete very little urea. There is a very slow elimination, so that it is extraordinary how they can put up with starvation. When this phenomenon shows itself, the astonishment of the friends surpasses every limit. A child who does not eat is almost a supernatural child, until the day when it loses flesh, and when its very life is threatened.

Such are the maternal influences. The paternal influences are not better. So that the first thing to do is to get the patient removed. There must be no papa, no mamma; no more admirers. The girl must be with calm and quiet people. She must be placed in a special establishment, or in a hydropathic institution. The parents generally yield to this after an experience of two or three months. When a young girl is subject to regular fits, making an incessant noise, calling out to the devil, jumping about like an acrobat, standing on the edge of the bed like a rope-dancer, if you manage, with the aid of a grandmother of eighty, who is not over sensitive, or of a sister of mercy, to get her into some quiet, retired place, you will soon witness an amendment of all the symptoms. You must have these patients "douched" upwards of five times a day, and sometimes in the night, if you want to master them. You then obtain a recession of all troublesome phenomena, but you must not think that you have cured the hysteria. The diathesis is still there. You must continue with perseverance the real treatment of hysteria—namely, hydropathy, which will consist of two or three douches a day, of short duration, and of ten degrees temperature (Centigrade.) From time to time you will have to give extra, or, so to say, punitive douches. When you see that the patient is on the verge of having a fit, that she is

getting cross and unruly, a douche must be given immediately, and especially the circle-douche, which formerly composed part of the treatment, and which is now used only in these particular circumstances, even with anæsthetic subjects, which seems a very curious thing. By degrees the patient only sees the medical men and attendants, who are little given to the admiration of hysteria, and she gets quiet and begins to eat. The parents are allowed to see their daughter only every fortnight or three weeks, and when the patient has been well-behaved. Every single case that I have seen treated in this way—and I am speaking of grave hysteria—has ended in cure. I know not of one single exception. The most tenacious symptom—namely, contracture—gives way in turn, and disappears. When hemi-anæsthesia disappears the patient is cured, at least, in appearance, for the disease may subsist in a latent condition, as I shall have occasion to show by and by.

You will notice that in all this no single drug has been employed, no bromide, no assafoetida. It is simply a half physical and half moral treatment. It is especially an external treatment, which we may sum up by saying that the life of the patient has been subjected to a particular discipline. This is, so to say, my ideal of a treatment. But it entails quite a special installation, it presents many difficulties in the application, and the necessity of a more easy and speedy plan of treatment is self-evident.

MR. BALMANNO SQUIRE'S MULTIPLE SCARIFIER.

“Multiple *punctiform* (as distinguished from linear) scarification” of the skin has for the last few years been employed with considerable success, at first in Germany and Italy, and more recently in England and America, for the treatment of various lesions of the skin, more especially for the treatment of Lupus vulgaris, or Lupus erythematosus, and of telangiectasis. This process consists of inflicting on the affected skin numerous vertical punctures, spaced closely together, the punctures being effected with the point of a cataract-needle, or of a lancet. The object being, in the case of Lupus or of Lupus erythematosus, the excitement of an acute traumatic inflammation, while in telangiectasis the object aimed at is the division at numerous points of the dilated minute veins, and thereby their consequent com-

plete obliteration. This method, however, although effectual in its way, presents the disadvantage of uncertainty as to uniformity in its detail, and as to thoroughness in its effect. Thus it is difficult to space the successively made punctures in an uniform manner, and so it results that while some get crowded together so closely as to mangle the part into ulceration, other punctures get made too far apart from one another to produce duly the moderate effect aimed at.

Mr. Squire has accordingly made trial of the process of *linear* (as distinguished from punctiform) scarification as a means of attaining greater thoroughness and more uniformity of effect, since it is easier to draw equidistant parallel lines than to dot out equidistant punctures. The only drawback that was to be anticipated from this improvement is that the linear incisions might produce linear scars, whereas the punctiform incisions certainly do not produce scars; *that* drawback, however, he finds does not occur. For some time he has used at first a cataract-needle, and subsequently a scalpel, for performing linear scarification of the skin, both the instrument and the skin being reduced to freezing temperature by means of the æther-spray apparatus. This method, however, was found to present two disadvantages in the way of its becoming generally employed. In the first place, some little expertness in the art of pencil or pen-and-ink drawing is a necessary qualification in executing the incisions with the requisite nicety, inasmuch as the incisions ought, if possible, to be made as close to one another as the 1-16th of an inch, and in addition ought to be perfectly parallel to one another. Then, in the second place, it was found necessary to execute the incisions with considerable rapidity, in order to finish the operation before the frozen skin had become thawed, an alteration which very rapidly takes place. Moreover, in any case, the operation with the single blade is deficient in offering satisfactory expedition.

Mr. Squire has, therefore, devised a multiple scarifier, con-

sisting of a number of extremely fine scalpels placed parallel to one another on a single handle, the scalpels being spaced so closely to one another that fifteen of them placed in position measure only one centimeter across. On making trial of this instrument, he found that the bulging upwards of the skin around on either side of the skin pressed on by the row of blades caused the two outermost incisions on either side to be considerably deeper than the rest of the incisions, a result which led to baneful gaping of these two outermost incisions. He accordingly added a curved shield on either side to obviate this defect. The shield measures six millimeters across, and its curve is parallel to and a little behind the free edge of the scalpels, but even this addition failed to attain sufficiently the object desired, which, however, was at length fully arrived at by diminishing the projection (beyond the shield) of the two outermost blades by two-thirds of the free edge of the other blades, and similarly diminishing the like projection of the two outermost blades *but one* by a single third.

The free projection of the edges of the blades beyond the shield (excepting the two outer blades) is about one millimeter.

With the alterations above referred to, the instrument is capable of executing a series of minutely spaced parallel incisions with absolutely perfect uniformity, both as to the spacing of the incisions and the *precisely equal depth of all of the incisions*, besides that it enables a considerable surface or number of surfaces to be expeditiously gone over.

Before use (unless the patient be chloroformed) the steel end of the instrument should be frozen by playing on it with the æther-spray, and similarly the skin to be operated on should be also frozen. The instrument should be chilled first, since it remains frozen much longer than the skin. However, as the frozen skin presents as to where sound and where diseased an undistinguishable appearance, the mar-

gin of the area to be operated on should first be mapped out by a thin line of unalterable color. The best pigment for this purpose is a somewhat strong solution of black sealing-wax, in rectified spirit, applied with the point of a camel-hair brush, the natural grease of the skin having been first removed by wiping it with a piece of blotting-paper moistened with benzine. This precaution enables the sealing-wax varnish properly to stick on. The varnish dries in a minute or two. Any remaining corners of a patch of diseased area left after operating with the multiple scarifier, and which can not be conveniently finished by operating with so broad a row of blades, may be operated on at a subsequent sitting with a single scalpel.

It is requisite in every case to which the scarifier is applicable, that the surface to be operated on should be scarified several times in order to effect a complete cure. On each of these successive occasions the direction of the parallel incisions should be slightly veered, that is to say, the direction of the second set should be somewhat oblique to that of the first set, and so on with each successive set.

At each operation the parallel cuts should be made in one direction only, that is to say, any set of cuts should not be crossed by other cuts until the former have healed.

The cuts made with this instrument, the blades of which should be very fine and very sharply set, heal promptly by the "first intention," leaving no scars, not even (if the instrument be deftly used) any trace whatever. So that within four days, at the furthest, the operation may be advantageously repeated over the same area, and in this way a rapid result be obtained.

The bleeding, which at first is pretty copious, may be immediately arrested by pressure with the fingers, a layer of wet blotting-paper being interposed between the fingers and the skin pressed upon. After three or four minutes, the bleeding will have perfectly ceased, but the blotting-paper

should be left on for two or three minutes more. It should then, *while still wet*, be carefully peeled off, and thereupon the quite unstained skin will scarcely exhibit any trace of the operation.

Linear scarification with the single scalpel, as at first advocated by Mr. Squire, in cases of port-wine mark, of lupus vulgaris, of lupus erythematosus, and of dilatation of the minute veins ("telangiectasis") of the face in middle-aged and elderly persons, complicating often especially *rosacea* of the face, has lately been carried out on an extensive scale by Dr. Vidal, and subsequently by Dr. Besnier, (Physicians to the Hospital St. Louis in Paris,) with considerable success in cases of lupus vulgaris. In cases of port-wine mark, the operation presents the exceptional advantage of obliterating the mark without the production of a scar, but in order to attain this end effectually, a considerable number of repetitions of the operation is necessary.

When the instrument is employed for the obliteration of the disfigurement occasioned by scattered minute dilated blood-vessels occurring on the faces of middle-aged persons, the direction of the incisions should be made as far as possible, transversely to the direction of the enlarged blood vessels.

The speedy and thorough corrosion of a fine blade, if blood be left in contact with it for only a short time, and the difficulty of getting at the blades of this instrument to wipe them, except by the troublesome process of taking the instrument to pieces each time after use, will suggest the expediency of a few hints as to this matter. If the end of the instrument be immersed in water immediately after use, the clots between the blades will become speedily loosened, and thereupon thin strips of blotting-paper should be drawn through each of the interspaces, from the backs of the knives towards their free edges. After this, the instrument should be well dipped in oil, and laid by for future use. Immediately before a second use, the interspaces should be similarly cleansed from oil by means of strips of blotting-paper.

EDITORIAL.

As our readers will see, we have with this number introduced one or two changes, which we hope will be for the benefit of the JOURNAL.

First, the association of another gentleman as editor, will enable each to do more thoroughly the work assigned to him. Dr. Pooley will continue to have charge of the original department and the reviews. To him, as hitherto, all books for notice, and exchanges, are to be sent.

Dr. H. G. Landis will have exclusive charge of the business of the JOURNAL, and all communications of this nature, such as advertising, subscriptions, etc., should be addressed to him, corner of State and Fourth streets, Columbus, Ohio. Dr. Landis will also have charge of a new department, which we begin with this number, the "Miscellany," or selections from our various exchanges, with professional news derived from all quarters; any thing, in short, which we think will be interesting to our readers.

This number has an excellent portrait of the late Dr. Turney, of Circleville, who was well known to most of our readers, who will no doubt be delighted to possess this likeness, and we call attention to it to show that we spare no trouble and expense in the effort to make our journal popular and attractive.

Other features of interest will be introduced as they suggest themselves, and we confidently appeal to the medical public, especially of Ohio, to give us still more liberal support in the future than they have done in the past.

WANTED.—The first nine numbers of Braithwaite's Retrospect. Also catalogues of Starling Medical College for the sessions 1865-66, 1871-72, 1872-73, 1874-75; or any catalogues previous to 1862. Any one having any of the above will find a customer by addressing Dr. J. H. Pooley, 117 East Broad street, Columbus, Ohio.

REVIEWS.

Lectures on Practical Surgery. By H. H. Toland, M.D., Professor of the Principles and Practice of Surgery in the Medical Department of the University of California. Philadelphia: Lindsay & Blakiston. 1877.

The author of this work tells us that, being requested by his students to write a text-book, he excused himself on the ground of his numerous engagements, but consented to *talk* a book. We have the result before us, and feel bound to say that it is not encouraging to this branch of industry. Indeed, the proverbial expression so often used should in future, in honor of the present work, be rendered "O! that mine enemy would *talk* a book." For he would be implacable and hard-hearted indeed who would wish even an enemy to be worse punished than in being the author of such a farrago of ignorance, folly, and flatulent egotism as make up the present volume. It is without method, exactness, or plan, antiquated in doctrine, false and pernicious in its teaching, and oftentimes laughable and ridiculous in style.

The following is the opening paragraph of Lecture V: "A few days ago I opened an abscess of the liver which had been about four months in forming. The patient was, at the time of the inception of the disease, in a tropical climate. He there contracted intermittent fever, which apparently yielded to the ordinary remedies; but he did not regain his health, and after returning to this city he discovered some enlargement of the left side, which ultimately acquired such magnitude as to be exceedingly inconvenient. In order to afford relief, an incision was made with a scalpel, and two quarts of pus escaped. In that case, chronic inflammation resulted in suppuration. Ulceration may also occur, as in chronic gastritis, accompanied with dyspeptic symptoms. When this disease is located in the intestinal mucous membrane ulceration frequently takes place, which is true of the cornea as well, in chronic ophthalmia. Adhesions are also very common in chronic pleuritis, in which the pleura costalis and pulmonalis become united, and the pleural cavity is obliterated." The author might just as well have added, in the same connection, that the rich soil of California produces the largest fruit and vegetables in the country, that gold may be found in its hills or washed down by its streams, or any other fact that was in his mind; for

any thing or every thing is equally relevant or impertinent in a discourse so utterly devoid of coherence or point as this is. Having given this specimen of our author's method of communicating knowledge, let us see what sort of information he conveys in this extraordinary vehicle. Take the following from page 92 as an example (*italics ours*):

"When an ulcer resists all treatment it is called a cancer, and then all that can be expected from medical treatment is to relieve the pain, and by the use of opium to render the condition of the patient supportable." The pathology of this sentence is a striking example of the method by which genius with one flash of light dispels a darkness, into which numerous plodding explorers have been trying for ages to penetrate. How perfectly simple, when you once understand it. How can men called learned have spent so much time and wasted so much labor, in trying to find out what cancer is? Why, it is nothing but an incurable ulcer, that's all

The learned professor not only simplifies pathology, but gives new force and meaning to language, as in the following delicious morsel on page 200. Holding up before his class a cystic oxide calculus, he informs them that, "in shape it is irregular and yellow."

While still on the subject of stone, and discussing the relative merits of lithotomy and lithotrity, he says, "I have seen Civiale operate frequently, and I know that no man possessed more manual dexterity, or was better acquainted with the diseases of the urinary organs. During my stay in Paris, I had access both to the Necker and Hôtel Dieu Hospitals, and witnessed the operations of both Civiale and Dupuytren, and upon comparing the results I came to the conclusion that except in the hands of specialists, of men of extraordinary manual dexterity acquired by experience, the knife is safer than the *écraseur*." This throws such a flood of light upon the whole subject that we did not feel justified in withholding it from our readers; comment upon it is unnecessary. The many points of interest in the book before us must be our excuse for the somewhat desultory character of this notice, for did we stop to do justice to them all, and thoroughly unfold their beauties, we should exceed all proper limits. We can only take up a few points here and there, and present them as specimen bricks of this wonderful edifice. Nothing is more conspicuous in this wretched performance than its egotism, which leads the author to laud certain of his favorite formulæ with all the fervor of a patent medicine almanac, lay claim to all manner of discoveries, vaunt himself above his brethren, and roundly abuse all who have had the ill luck or the temerity to differ from him.

As an example of his egotism we may quote the following from page 209: "As long as I have been a member of the profession, I have never had a patient either to die on the table, or sooner than five days after

being operated upon. I have always thought that it is an evidence of bad surgery." The peculiar point of this quotation can only be apparent when we inform our readers that in other parts of the book we find admissions of patients having died seven, nine, and eleven days after operations performed by Prof. Toland. What we have to insist upon, therefore, as evidence of good surgery, is that they shall not die in *five* days.

Lecture 21 is devoted to poisons, and is introduced by the following words:

"*Gentlemen* : This morning I propose to say a few words about poisons. These are substances which destroy the structure or derange the action of the body, independently of mechanical violence or increase of temperature," and a little further on we read, "Of the animal poisons, we will first consider those secreted by insects and serpents, such as the bee, wasp, spider, and tarantula, as well as some of the varieties of the snake." There's scientific accuracy and discrimination for you. In discoursing on hydrophobia we meet with the following important information, which all should bear in mind: "I have often traveled at night, when making professional visits, with a cane in one hand and a revolver in the other, and on one occasion, even with such weapons, a horse rack saved me from a large, powerful dog, which destroyed a great deal of property before he could be killed in the morning. The bite of a mad dog is, of course, very dangerous." The value of this information is too obvious to escape even the least attentive, and comment would be impertinent.

The lecture from which this extract is taken embraces also amputations, the removal of a fibrous tumor from the neck, and exfoliation of bone, all cognate subjects. Uncertainty of diagnosis is one of the great perplexities of surgeons, who are often reminded of the old Hippocratic aphorism, that "judgment is difficult." Even in so plain a subject as that of fractures, this has been painfully felt by many, but, thanks to Toland, these doubts are forever dispelled, for, on page 273, he says: "The most important symptom of fracture is crepitation. *This is always present.*" We had thought that in impacted, and in incomplete fractures, it was not *always* present; but we have never written or *talked* a book. No one who has paid any attention to surgery but must be aware how perplexing the subject of fractures of the lower extremity of the radius is. Numerous splints and appliances have been suggested for these injuries, and many papers and monographs have been written upon the subject, but Toland rises above the uncertainty and doubt that beset inferior minds, and equal to this, as every other problem, simply says: "In this fracture always apply the pistol splint, because it is the only one with which it can be treated successfully."

According to Toland, bone pathology is exceedingly simple, for he says, page 313: "When a bone is diseased, and not necrosed, it is called caries." And yet we have had men, whom we have foolishly looked up to as masters of surgery, who have written whole volumes on the diseases of the bones. A little further on, under the head of fibrous ankylosis, we meet with the following remarkable statement: "In Europe, in consequence of the unwillingness of such patients to take exercise enough to prevent ankylosis, they have in every hospital a room with a metallic, perforated floor, which is heated to such a point that a patient is unable to stand upon it a minute, but by constant motion the heat is not sufficiently great to burn. This course of treatment is universally adopted in old cases of chronic rheumatism, and many which were regarded as incurable have been rendered useful members of society." We do not like to question the sagacity of a great man like Professor Toland, but surely he must have a more than infantile simplicity to be imposed upon by such travelers' tales as this.

It is hard to say whether in the following extract the practical business advice, or the scientific conclusion, is most to be admired, they are both alike remarkable; it is the concluding part of Lecture 31, and occurs on page 344:

"In conclusion, allow me to advise you never to perform tracheotomy or laryngotomy, unless the responsible party is able to pay the bill. The man on whom I operated, on Sacramento street, sold his property, did not pay me one cent; yet I hope he is as comfortable as any man who has a hole in his trachea can be, when he knows that the man who saved his life did not receive one cent, either for the operation or the subsequent attention. Never open either the larynx or trachea in diphtheria. I have operated to gratify the parents, and when the child dies they say that the doctor committed homicide. I have lived a long time, have treated many children, and I beg of all young practitioners never to perform tracheotomy in cases of diphtheria. They always die, because the false membrane has formed in the lungs, and has destroyed the functions of these important organs."

Serious refutation of such rubbish as this would be entirely out of place; indeed, we owe our readers an apology for dwelling so long on this wretched performance; our excuse is, that this review has been largely taken up with quotations, and without actual quotation, no one would believe that such stuff could be printed and published.

Injuries of the Eye, and their Medico-Legal Aspect. By Ferdinand Von Arlt, M.D.; Professor of Ophthalmology in the University of Vienna, Austria. Translated with the permission of the Author. By Chas. S. Turnbull, M.D., Surgeon to the Eye and Ear Department, Howard Hospital; Chief of the Ear Clinic, Jefferson Medical College Hospital; Physician to the German Hospital, Philadelphia; Late Resident Assistant Surgeon to the New York Ophthalmic and Aural Institute, etc., etc., etc., Philadelphia: Claxton, Remsen & Hefelfinger, 624, 626, 628 Market St., 1878, p. p. 198.

This translation, as the translator says in the preface, "is intended to fill the same gap in American medical literature, which the original has so successfully done in the German." We are glad that the book has been placed in the hands of the English reading public, for there certainly was room for a modern treatise on this important subject.

No one could have performed this task with greater ability than the distinguished author has done. The publication which was first offered to the public in a series of articles in the "*Wiener Medicinische Wochenschrift*," met with such universal favor that they were collected in an unaltered edition in book form.

The book is divided into three parts, viz.: I. Injuries produced by sudden compression or concussion of the eye. II. Injuries produced by the entrance of a foreign body not acting chemically. III. Scalds and corrosions of the eyeball. A fourth chapter is given to the discussion of such affections as are either feigned or produced artificially and intentionally.

"There are translations and translations." In some of them it is difficult for the reader to follow the sense of the author, arising from the fact that the translator has not mastered the meaning of the writer himself, and very naturally he gives but a confused account. But such is not the case in this translation. Dr. Turnbull shows that he has not only fully entered into the author's views, but, also, that he has a well digested knowledge of the whole subject himself. He is to be congratulated upon having not only faithfully reflected the meaning of his author, but also upon having clothed them in a very agreeable and readable English dress. We hope the book will meet with the recognition from the profession which it so justly merits.

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ORIGINAL COMMUNICATIONS.

ART. I.—*Clinical Notes in Obstetrics and Gynecology.* Read before the Yonkers Medical Association at its stated meeting, January 25, 1878. By EUGENE PEUGNET, M.D., Fordham, New York.

MR. PRESIDENT AND GENTLEMEN: Having occasionally related at the pleasant re-unions of our society, cases in obstetrics and gynæcology, which, if not unique, may have presented some points of practical interest—moreover, as it is such points that are of the greatest value, and the elucidation of which fulfill to a marked extent the object and purposes of such an association—therefore, I have collected such cases as have been extemporaneously related to you, together with a *resume* of a few others, giving a clinical history of the *ensemble*, which may or may not be of practical value. The object I have in view is to urge the importance of closer attention being paid to the management of woman during gestation, parturition, and their sequences. I will, therefore, divide my subject somewhat arbitrarily into three parts: 1. Parturition and its complications; 2. Puerperal insanity; 3. Gynæcology.

PARTURITION AND ITS COMPLICATIONS.

Forceps.—The ambition of every fledgling or tyro in the art of obstetrics, is a forceps case; then, perhaps, one of craniotomy. In 1859, when house surgeon of Bellevue Hospital, I had a bit-

ter experience in my first forceps case, which, fortunately terminated without any unfavorable result. Case 1: A primipara, about nineteen years of age, with a contracted pelvis, vertex presenting and protracted labor. The house staff concurring, I applied the forceps at the superior strait. In sweeping the curve of carus, I failed to make extension in time, causing a frightful laceration of the perinæum, making a rent in the recto-vaginal septum nearly two inches in length, in fact, forming one cloaca. The attending physician, my lamented friend, the late Dr. George T. Elliot, was immediately sent for. He at once brought the parts together with interrupted silver sutures. The recto-vaginal septum united by first intention, and the perinæum by granulations. My patient died one year subsequently of phthisis pulmonalis. I have been fortunate enough since then to have had but one other case (2) of similar nature. This one, although the laceration of the septum was but slight, required a second operation. The accident in this case was not due as much to the want of extension, as to the neglect of slipping off the forceps when the head reached the vulva.

In 1863, I was called in consultation to see a primipara, case 3, who had been in labor nearly forty-eight hours. The gentleman in attendance had applied the forceps. After several ineffectual attempts, he sent for Dr. Reinfelder; the latter unable to come, sent his forceps. These were also tried with a similar want of success; they like the first, slipped off each time. I found the vertex presenting R. O. A.; the lateral parietes of the vagina, near the os uteri, lacerated, in fact, in shreds, the foetal heart inaudible, the patient herself sinking. I advised immediate delivery with the forceps, as it was evident that the want of success in the previous attempts was due to the weakness of the forceps, rather than to the contraction of the pelvis. I was requested to make the attempt, but previous to making it, insisted upon the relatives being informed that there was no possibility of saving the mother, and it was only done with the hope of saving the foetus, which might still be living. Taking Simpson's forceps

with the long handles, I readily delivered the foetus stillborn. Owing to the lowness of the bed, I was compelled to sit on the floor, in order to make traction in the axis of the superior strait. The doctor could not account for the laceration, but stated that as direct tractive force seemed to fail entirely, he had made use of great swaying motion. This exaggerated side-to-side lever action had evidently compressed the vaginal parietes between the pubes and the blade of the forceps, thus accounting for the laceration. The mother died in twenty hours from shock and exhaustion.

The following, case 4, shows the amount of direct tractive force that can be made without injury either to the soft parts of the mother, or to the foetus. On the 2d of March, 1866, I attended to a Mrs. McK., a multipara, third child. The two first were delivered by craniotomy. The vertex presenting R. O. A., and impacted between sacrum and pubes, the conjugate diameter of superior strait greatly contracted. I applied forceps and had considerable difficulty in locking them. Dreading the laceration which might ensue in this case from side-to-side lever action, I concluded to rely entirely upon direct and steady traction. My strength giving way, her husband held me around the waist, whilst the patient was held *in situ* on the dorsum, by four women. In forty-five minutes I had the satisfaction of bringing the head down on the perinæum. The delivery was then speedily accomplished. Both mother and child, a girl, did well. This was, without exception, the most difficult forceps case I have had to deal with. The mother, I am informed, died three years subsequently in parturition.

The amount of force made use of in this case is certainly open to criticism; but I frankly admit that unless there was undoubted evidence of the death of the foetus, I should not perform craniotomy—for instance, occurring in cases of podalic version; yet it must be borne in mind that version at term, is not warrantable, or even justifiable, unless the conjugate diameter measures more than two and three-quarter inches. This, of course, does not

apply to a contracted outlet. In such instances craniotomy would be preferable to version. It is preferable to destroy one life rather than two, for craniotomy is almost the inevitable sequence of podalic version attempted at term, when the conjugate diameter is less than three inches. Fortunately, art is not at a loss at the present day for means to avoid the evil results of parturition in such deformities, that is, by the induction of premature labor. Of course, in these cases we cannot, as in uræmic intoxication, delay its induction until the end of the seventh, or beginning of the eighth month. The viability of the child has an interesting bearing on these dystocias. Moreover, this failing, we can have recourse to Cæsarian section, or else to ilio-pubic electrolysis.

The following, case 5, illustrates the advantage of a reliable pair of forceps, also of placing the patient in an *elevated position* for the purpose of making traction in the axis of the superior strait when on the dorsum, also enabling the operator to recover himself more quickly in making extension. The patient was forty years of age; contracted pelvis; twelve children; eight still-born by artificial delivery; three born alive naturally; twelve alive delivered with forceps. With the first four she was attended by two physicians from a provident society in Ireland. One of them told her the crooked bone hindered the births. The fifth, now twelve years of age, quite small, was born alive, with medical assistance; the sixth a footling presentation, was born alive, without the doctor; the seventh and eighth, both still-born by artificial delivery; the ninth, attended by Drs. Charles F. Rodenstein and A. M. Campbell, version, still-born; the tenth, Dr. Pratt was sent for, but the child, a small one, was born alive before the arrival of the doctor; the eleventh, after the patient had been in labor several hours, Dr. Pratt was sent for, vertex presenting; he applied forceps, but they slipped off each time; Dr. Charles F. Rodenstein, who had been called in, concluded to try craniotomy, with the Thomas craniotome, but owing to the impossibility of steadying the head, had recourse to version; the fœtus was still-born. Dr.

Rodenstein, whose well known abilities as an accoucheur, were beyond question, concluded from his experience in the ninth and eleventh labors, that in case of a subsequent pregnancy, it would be best to perform craniotomy or Cæsarean section. It is evident the doctor was made aware of the danger of shock and exhaustion following craniotomy—the sequence of the failures of version—therefore, in giving that advice he sought to spare the patient such a risk.

The twelfth child ; taken with pains in the morning ; Dr. Pratt sent for at 4 P.M., but only saw her at 6:30 P.M. ; found membranes ruptured, os fully dilated, and vertex presenting in left occipito anterior position. At 9 P.M. I was called in with a view of performing Cæsarian section or craniotomy if advisable. Although I found the antero-posterior diameter measuring, according to my index finger, scant three inches, the want of a rule, I am ready to admit, may have led to some inaccuracy. The general circumference of the brim indicated a somewhat contracted pelvis. I considered that this contraction did not even warrant version, let alone craniotomy or Cæsarian section, until the forceps had been effectually tried. Moreover, the locking of the forceps would demonstrate whether the head was relatively out of proportion with the brim of the pelvis. It was true the standard limit for the application of the forceps was three inches, yet Hodge and others had successfully applied them in a conjugate diameter of two and three-quarter inches ; Cazeaux, in his classical work, made it a fraction less than two and two-thirds of an inch ; moreover, Depaul had had two successful deliveries in which the conjugate diameter was less than two and one-fifth of an inch, although such cases as the latter were a rarity. I was not surprised at Dr. Pratt's want of success in the previous parturition, as his forceps—a pair of Byford's—were entirely too light for traction, and still less compression at the superior strait or above the brim. We concluded to wait till midnight, and if the head had not then engaged itself, to try the forceps.

12:30 A.M.—There having been no further progress, we placed

the patient on a table, and having anæsthetized her with chloroform, Dr. Pratt applied my forceps—a pair of Simpson's. Having locked them, the space of half an inch between the handles showed that the transverse biparietal diameter was three and one-eighth of an inch. Therefore the gain which compression would give us indicated that the foetal head was not out of proportion. Owing to the steady traction, made by the doctor, in the axis of the superior strait, I soon had the satisfaction of feeling the head engage itself, and as it passed into the pelvic cavity, the doctor, following the sweep of the curve of carus, raised the handles, thus making extension, and disengaged the forceps as the head reached the vulva. The delivery was then speedily accomplished. Both mother and child did well. The latter, we both thought, weighed nine pounds, but this is only approximative.

This case is remarkable from the fact that, out of nine instrumental deliveries, but one child, the twelfth and last one, was born alive, whilst of three natural deliveries, one a footling, all three lived. Of course, we have the facts of but three of the cases in which artificial means were resorted to. We know that in two cases forceps failed, and recourse was finally had to version, with a fatal result to the foetus in each case.

To make traction in the axis of the superior strait, when the dorsal position is selected, it must be made from above downwards, and the position on a low bed will not permit of it, although Mr. Jarnier has, I believe quite needlessly, devised a new pair of forceps, with a double curve, to obviate this. Of course, obliquity of the pelvis will necessarily modify this rule, but the skillful accoucheur will, like the accurate engineer, study his topography beforehand. The danger to the perinæum in the first stage, the engagement and passage of the head into and through the superior strait, is exceedingly remote. This, as I have already demonstrated, occurs from the want of judicious extension, and in many cases from the neglect of removing the forceps as the head reaches the vulva. There are, no doubt, some cases in which a contracted vulva may necessitate the complete extraction of the

head by the traction, but these are the exception. Two fingers in the rectum, as first suggested to me by Dr. Elliott, will accomplish wonders, and undoubtedly save many a perinæum. We can thus avoid the two painful accidents occurring in my obstetric practice.

BI-MANUAL MANIPULATION

Is frequently of use in many cases, thus obviating the necessity of forceps at the superior strait, also avoiding the danger of an impacted head, which so frequently gives rise to pelvic cellulitis, fistula, etc. The following, Case 6, affords an apt illustration of it:

On the 8th of August, I was called to Mrs. F. Irish, thirty years of age; second child. The first, I am informed, born two and a half years previously; protracted labor; impacted head; forceps; child lived a few days; pelvic cellulitis, terminating in suppuration, and complete recovery in four months.

The membranes ruptured between 6 and 7 A.M. At 7:30 P.M. I saw her for the first time; the pains were moderately strong, foetal heart distinct on left side, os uteri moderately dilated and dilatable, felt vertex, and presumably saggittal suture, in right oblique diameter, but could not reach either fontanels. The anterior-posterior diameter somewhat contracted from undue prominence of the promontory of the sacrum, pelvis otherwise roomy, but still presenting a marked capital letter B shape. Not anticipating any trouble, left, with directions to be sent for when expulsive pain became severe.

At 11:30 P.M., having been sent for, pains severe and frequent, foetal heart distinct, os fully dilated, head still at brim, the anterior fontanelle towards left obturator foramen, saggittal suture distinctly in right oblique diameter, posterior fontanelle not within reach.

1:30 A.M.—No progress perceptible, but caput succedaneum marked, and on left parietal partially covering anterior fontanelle. Introduced left hand with a view of causing rotation of occiput from right to left, and flexion either by means of the vectis or with blade of forceps, but finding I could pass my index

and middle finger behind the posterior portion of left parietal bone, drew the occiput towards the transverse diameter, and with the right hand firmly compressed the uterus above the pubis, the head then engaged itself in the transverse diameter.

At 6:30 A.M., head in inferior strait, and there having been no progress for three hours, I was about sending for Dr. Varian, but an urgent call compelled me to apply short forceps over parietal diameter and to deliver the head. As the shoulders were evidently arrested at brim, I introduced my right hand and with index worked in left axilla, brought the shoulder down, and accomplished a rapid delivery. Child, a boy, weighed $13\frac{1}{4}$ pounds in towel. Both mother and child did well.

In this case, I made use of manipulation in preference to forceps, for it was clearly the indication, and in accordance with the principles advocated by standard authorities. The membranes had been ruptured nearly twenty hours, the os dilatable at least eight hours, and fully dilated three hours. Had I waited longer, it is barely possible that, in accordance with well known physical laws, the head might have slipped into the transverse diameter. But the indications were that, instead of such a fortunate result taking place, the frontal bone crowded down, thus extension instead of flexion taking place, converting an otherwise normal presentation into a brow or face, or else impaction taking place, which, from the pressure on the soft parts of the mother, would have in all probability given use to suppurative cellulitis. Moreover, I would have had a more difficult forceps case, and in all probability have been compelled to seize the head in the occipito frontal diameter, which every experienced accoucheur knows is more dangerous to the fœtus. It is only a short time since I presented to this association a small piece of necrosed bone, removed from the right of the crest and below the superior curved line of the occipital bone, caused by the forceps having been applied in this very position, and there had also been a laceration above the left eye-brow. The gentleman who attended the lady a *primipara*, no doubt did every thing *secundum artem* and frank-

ly acknowledged his being responsible for the laceration, but erred in telling her that the necrosis of the occipital bone was caused by the pressure of the pelvis, for, aside from its absurdity, it was impossible *cæteris paribus* to have had the opposite blades of the forceps in any other position than at these very points. It was my good fortune to be able to allay a marked prejudice in reference to this gentleman, for a neighboring practitioner, under whose care the patient subsequently fell, before she was sent to me for an operation, threw out the innuendo of "undue haste, should have waited for nature's efforts," etc., but it is, unfortunately, a weakness, I am free to confess, of our profession, of being rather too hypercritical of our brethren's success or non-success in this or that case, especially where there is a clashing of material interests; but I trust the empyrian days will soon be reached when friendly rivalry will stimulate unselfish professional advancement, thus becoming, one and all, a "Hyperion to a Satyr."

Mrs. F's case naturally draws our attention to the application of forceps at the inferior strait. It is a well-known fact that occasionally the head from inertia of the uterus, or from the want of extension, will rest on the perinæum for hours, causing a continuous distension and compression of the vaginal parietes, which is fraught with danger to the mother, if not to the fœtus. Therefore, authorities agree as to the necessity of not too long delaying the application of the forceps. For this purpose, Simpson's short-curved forceps are admirable. In former years with an extensive suburban practice, I almost invariably carried them with me, for it was no uncommon occurrence for me to be called in on my rounds to cases in which labor had been protracted for forty-eight hours, and even more, and placing the woman in the English position on the side with pillow between the knees, would rapidly relieve her of her sufferings. I prefer, as a rule, the continental and American position on the dorsum; but for these cases, especially with a want of assistants, the English presents many advantages. It also presents many in the applica-

tion of the long forceps at the superior strait, especially when the patient cannot well be placed in an elevated position, since traction can be more readily made in the axis of the superior strait. But on physical and anatomical principals, the dorsal position, either with long or short forceps, is the best. It may be advanced that anæsthesia paralyzes the action of the abdominal muscles. True ! But it does not paralyze the laws of gravitation, or deprive the obstetrician of the inestimable advantages that intelligent assistance affords in this position. However, I am rather digressing from the object I had in view : The danger of a short entangled cord to the foetus. A young primipara, Irish, was taken in labor at noon, the membranes ruptured at 2 P.M. ; I was called to her at 8 P.M. The os was fully dilated, vertex presenting in L. O. P., and engaged in superior strait. At 12 M. rotation had taken place and extension began ; at 2 A.M. the vertex was on the perinæum ; although the outlet was somewhat contracted, did not anticipate any trouble from that source ; 4 A.M. caput succedaneum quite prominent at vulva ; pulsation of foetal heart almost imperceptible, sent for forceps ; but in the meantime with two fingers of left hand in rectum, and by manipulating with right hand on side-to-side lever action on vertex, succeeded in disengaging the head ; passing my finger into the foetal mouth detected slight pharyngeal contraction ; then passing finger around neck found it free from any entanglement of the cord, but the latter passed over right shoulder and had ceased pulsating. This entanglement had also prevented the rotation of the shoulders, as the prominence of the right shoulder, owing to the emaciation of the patient, could be distinctly felt above pubes. I divided the cord, passed shoulder down towards right iliac fossa, and the foetus was immediately expelled, but all efforts at resuscitation failed. The mother did well. I have never had an accident identical with this one, but somewhat similar ones, two in number, in which the cord was coiled around the neck, and I am perfectly satisfied the early use of the short forceps was the means of

saving them. In one, after thirty-five minutes efforts at resuscitation, and in the other, nearly an hour.

Mrs. Cooney's case also presents an interesting feature as to the respective merits of the forceps versus version, but unfortunately the want of data as regards the first six artificial deliveries prevent positive deductions being made as to this particular case. Nevertheless, it naturally leads to the consideration of

VERSION.

The following cases illustrate its two forms: Artificial and spontaneous versions. As these notes are simply clinical, I do not propose to discuss them.

CASE VIII.—In March, 1869, when assistant physician at Blackwell's Island hospitals, a convict primipara was taken in labor. After she had been so for several hours, I was summoned to her. I found the os fully dilated, left hand at vulva, foetus wedged down, uterine contractions strong, and amniotic fluid pretty well drained off. I had her removed from her cell, and according to the rules, sent for the deputy resident. He attempted podalic version, but the uterine contractions cramped his arm so that he was obliged to desist. I then introduced my right hand, and succeeded in turning the child—a large one, still-born. The mother died on the twelfth day of puerperal fever. The result I am convinced of contagion. There were then three or four cases at the Island Hospital on the north end of the island.

CASE IX.—Mrs. D., ninth child, previous labors normal. May 1, 1864, was called at 9 P.M., found the os fully dilated, membranes not ruptured, elbow presenting, and placenta near posterior lip of uterus. Tried bimanual version; during the effort there was a profuse gush of blood; I immediately ruptured the membranes and performed podalic version. The placenta was attached to the posterior wall and lip of the uterus. The child was still-born. The uterus contracted firmly, and patient doing well, when an hour subsequent to delivery, she was taken with syncope and died at midnight.

CASE X.—August 14, 1865, was called in consultation to Mrs. C. This lady was taken in labor with her seventh child on the 13th, at 4 A.M. Her physician found the right hand presenting ; he tried bimanual version ; then endeavored to replace the hand and arm within the uterus. I saw her on the 14th at 12:30 A.M. ; advised immediate podalic version ; gave her chloroform ; the doctor endeavored to do it, but owing to his exhausted condition, was compelled to desist. I then introduced my hand, and found that the placenta had become detached, seized the left knee and speedily delivered a large foetus still-born. The patient made a good recovery.

CASE XI.—Mrs. P., eighth pregnancy. The first five normal ; sixth, twins ; seventh, miscarriage in third month. November 18, 1869, was called to New Jersey to attend this lady. At 8 P.M., found the os dilated about the size of a silver dollar ; shoulders presenting, foetal heart in median line below umbilicus, head towards right iliac region. The uterine contractions were not strong. In an hour the shoulders appeared to be higher and less prominent ; whilst watching this spontaneous movement, the uterus rose towards the ensiform cartilage, and a violent contraction following, the membranes ruptured, and the breech engaged itself. Owing to the rigidity of the os, the expulsive pains were tedious, and the foetus was delivered at 8 A.M. on the 19th ; it made an effort at respiration, but all effort at resuscitation was unavailing. The mother did well, until the night of the 12th of December, or 23d day, when she was taken with profuse flooding. A physician was summoned, who applied a tampon. On the 13th, I was telegraphed for, and Dr. T. F. Cook, also ; we found her, although exsanguine, doing well, and no indications of hemorrhage ; 14th, no new developments ; 15th, oozing of blood, changed tampon ; 16th, still an oozing of blood, removed tampon ; and whilst the abdominal aorta was firmly compressed by her physician, I introduced my index into the vagina, found the cervix patulous, pressed my finger into the uterus as far as the fundus, removed some small clots, and sweeping around the

uterine cavity, found it very ragged, communicating a sensation of hypertrophied villi. I then applied the liq. ferri persulphatis by means of a swab; introduced a tampon, made of pieces of cotton tied separately, and soaked in carbolized oil; then applied bandages to the limbs, from the feet to the hips, and from the fingers to the shoulders, raised the foot of the bedstead, and left only a small cushion under head, at the same time prepared for immediate transfusion, whilst her oldest son stood ready to give the necessary blood. Fortunately, this did not become imperative, therefore, did not make use of it. Essence of beef was given per rectum, and milk punch in moderate quantities. On the 19th, owing to restlessness, she was given an eighth gr. ($\frac{1}{8}$) of morphine by the mouth, which was repeated in two hours. At 2 A.M. on the 20th, eight hours subsequent to the last dose, her pulse rose rapidly to 140, also the temperature of the body. The respiration went down to 12; pupils firmly contracted; profound coma; finally, by slapping her and the free use of concentrated coffee by mouth and rectum, she recovered her consciousness. The tampon was removed piece by piece, until the last one was taken out on the 23d of December, the vagina washed out each day with carbolized water. On the 17th of February, 1870, I made a vaginal examination; the cervix was sound; there was a slight cervical ulceration, which healed rapidly; the uterine sound showed the uterus to have a dimension of three inches. This patient, owing to the profound anæmia, remained for some time apathetic and melancholic, in fact, in a condition bordering on dementia, but has long since recovered from the effects of the hemorrhage, and is now entirely well, and never has been pregnant since.

These cases of version are a sufficient explanation for my preferring forceps to version. All of them were fatal to the fœtus. In my forceps cases, I have lost but eighteen per cent. of the children, and none of the mothers. I except, of course, the case of laceration of the vagina, in which the woman was dying when I applied them. The accident of flooding in two cases, and fatal

syncope in one, is pregnant with importance as to their management subsequent to the arrest of the hemorrhage.

CASE XII.—In 1865, I was called to a young married woman, who had miscarried in the second month, and was brought from a distance. On the third day, she was flooding profusely. This I speedily arrested, but the next, fourth day, there was some oozing. I applied tampon. On the tenth day there was no further evidence of hemorrhage, I told her and her attendant that I would not be in until the twelfth day, and not to allow her to leave or even rise in her bed till then. The next day, being a woman of strong will, she insisted upon walking from the bed-room to her sitting-room. She fell back in the rocking-chair dead, from cardiac syncope.

PUERPERAL CONVULSIONS, THE RELATIONS OF ALBUMINURIA TO THEM AND THE INDICATIONS FOR PREMATURE DELIVERY.

CASE XIII.—In June, 1867, Mrs. A., a primipara, in the third month of her pregnancy, was taken with violent abdominal pains and treated homeopathically for uterine colic. After two days' suffering, was taken with a convulsive seizure, when I was sent for. She was in a semi-unconscious state, with marked opisthotonos. On making a vaginal examination, found the inferior extremities of the embryo were protruding through the rigid os. I removed it, and the convulsive seizure subsided. As the placenta was firmly adherent, I left it undisturbed. Twenty-four hours subsequently, the convulsions recurred; then, after considerable effort, succeeded in completely detaching the placenta, upon the removal of which the convulsions ceased. There was neither albumen or casts in her urine. She subsequently had two or three children without any complications, and died last year of leucocythæmia.

CASE XIV.—Last fall I was called in consultation to see the wife of a physician, who, after some flooding, had miscarried in the third month of her pregnancy. The embryo and placenta had been removed and there appeared to be no debris left. But convulsive attacks, with complete unconsciousness, opisthotonos, and incessant vomiting continued to recur. Three hypodermic injections of morphine, at intervals, relieved her completely.

CASE XV.—On the 14th of March, 1865, I was called to Brownsville, in consultation with Drs. Nordquist and Smith, to see Mrs. B., a young married lady, twenty-five years of age, who had had four previous miscarriages between the fourth and fifth months, without any complication. On the night of the 13th, in the fifth month of her fifth pregnancy, she was attacked with an intense cephalalgia, for which a neighboring physician was called in. He prescribed for her, and left. At 8 P.M. she was taken with a severe convulsion, and Drs. Nordquist and Smith were sent for. They administered chloroform; the convulsions continued to recur hourly, until at 9:15 A.M. on the 14th, she had her thirteenth convulsion. The result of this consultation was to place the patient fully under the influence of chloroform, and the induction of premature labor. As the os was rigid, the douche was made use of. At 11 A.M., I could introduce my finger within the cervix and feel the foot of the embryo. I then endeavored to make use of Barnes' dilators, but the firm contraction of the uterus, and the sharpness of the edge of the os uteri, precluded my meeting with any success. At 11:30 A.M., Dr. George T. Elliott, who had also been sent for, arrived. He endeavored to apply Barnes' dilators, but also failed. I then proceeded with the douche, and at 2 P.M. succeeded in introducing the index and middle fingers, and seizing one foot, then the other, extracted the inferior extremities and pelvis. I then, with considerable difficulty, removed the trunk. At 3 P.M., owing to the temporary discontinuance of the chloroform, she had another violent convulsion. Dr. Elliott then succeeded in extracting the head, by means of a strong pair of polypus forceps. The rigidity of the os was so great that the head, when extracted, was as flat as a pan-cake, the contents having escaped through the foramen magnum. The doctor then removed the placenta, detaching it with his fingers. The patient had no further convulsions after the fourteenth and last. She recovered without one untoward symptom, although very anæmic. The pulse, from the 14th, immediately after the delivery, varied from 120 to 128, and finally, on the 27th,

was 108. Muriated tincture of iron, in free doses, was the only remedial agent made use of. Some of her urine, which I had drawn off, was examined by Dr. Austin Flint, Jr. He found it of a low specific gravity, barely a trace of albumen, and containing pale, waxy casts.

On her recovery, I cautioned her husband against any further pregnancies, as I regarded her previous miscarriages and the present one, the fifth, indicative of a peculiar idiosyncrasy, in other words, purely reflux convulsions. The result of the urinary analysis indicated a condition of the kidneys independent of the ordinary albuminuria accompanying and frequently consecutive to the puerperal condition. In this opinion Dr. Elliott did not concur.

In 1868, whilst in Paris, a friend of her father's informed me that a lady, whose death I had prophesied two years previously, had just occurred in California. On my return to New York, I met her husband, who informed me that in the fifth month of her sixth pregnancy, she was attacked with cephalalgia, and the physician called in, was informed of the advice I had given, and refused to induce premature labor, or rather an abortion. Convulsions soon set in, and she died in a few hours.

CASE XVI.—On the 28th of December, 1864, was called to Mrs. L. This lady, a primipara, was taken in labor about 3 P.M. She had had a miscarriage five or six years previously, which led her physicians to advise her against pregnancy. I saw her at 8 P.M.; the os was fully dilated, vertex at superior strait R. O. P.; the sacro-lumbar articulation rather prominent. At 2 A.M. on the 29th, the head had become engaged, flexion and rotation taken place, when she had a slight convulsive seizure. As her physician, Dr. Nordain, had not arrived, and considering further delay dangerous, I applied the forceps and delivered her of a boy weighing over twelve pounds, who is now thirteen years of age. She recovered without one untoward symptom, although her urine was highly albuminous.

On the 12th of July, 1866, while in the seventh month of her

third pregnancy, she was taken at about midnight with what the family considered an attack of cholera morbus. I was immediately sent for. At 12:30 A.M., the 13th, she was vomiting and complained of great pain in epigastrium; pulse, 120, and weak. At 12:45 she had a convulsion, which was followed by a more severe one about twenty minutes subsequently. I sent for assistance; the nearest physicians were Doctors Varian and Horsfield. The latter came at once, and on examining her urine, which I had drawn off with a catheter, found it loaded with albumen. He agreed as to the propriety of the induction of premature labor. I accordingly made an examination; the os uteri was about the size of half a dollar, and rigid; the vertex presenting, I made use of the douche, whilst Dr. Horsfield kept the patient under the influence of chloroform, who had had, meanwhile, a recurrence of the convulsions. At 6 A.M. the os was sufficiently dilated, and Dr. Varian, who had arrived in the meantime, thought that an error of judgment had been committed, but that notwithstanding the patient was sinking, it would be advisable to extract the child. This I did by version, as the head, owing to the complete uterine relaxation, had receded, and it was impossible to seize it with the forceps. The fœtus was still-born. After the removal of the placenta, although the uterus contracted firmly, the patient continued to sink, and died at twenty minutes past 7 A.M. The discoloration of the water used in the douche led some of the bystanders to believe that the patient had lost considerable blood, but such was not the case. There was no post mortem, which I subsequently had great cause to regret, for, as usual in such cases, I was severely censured, and thus had to pass through an ordeal which was far from pleasant. For

“Detraction’s a bold monster, and fears not

To wound the fame of princes, if it find

But any blemish in their lives to work on.”

CASE XVII.—Mrs. M., thirty years of age, a multipara. In the eighth month of her fourth pregnancy, had been complaining for several days of cephalalgia. January 21st, 1875, was attacked

with a severe convulsion at 11 A.M. ; a second one at 11:30, and a third at 12:15 P.M. I was called to her at 12:30 P.M. ; she was then conscious, pulse, 120, and full ; stating the urgency of the case, sent again for her family physician ; he arrived at 1:30 P.M. She was then unconscious, the os elongated and undilatable, and the urine highly albuminous. I urged the necessity of induction of premature labor and depletion. This being objected to, I withdrew. 2:30 P.M., fourth convulsion ; 4:30 P.M., two thirty-grain doses of the bromide of potassium had been administered, vomiting occurring ten minutes after the first dose. Fifth convulsion ; chloroform then administered. 5 P.M., having been sent for, the induction of premature labor was begun by means of douche and Barnes' dilators. 10:20 P.M., five convulsions between six and ten. The os dilating rapidly, but the uterus relaxed. One drachm of the fluid extract of ergot administered. 10:45 P.M., eleventh convulsion. The vertex presenting R. O. A., the doctor applied the forceps and delivered a living child. 11:30 P.M., pulse 100 ; I applied wet cups to the lumbar region, urged the importance of free venesection from the median basilic, then withdrew. January 22d, 1:15 A.M., four convulsions since midnight. A hypodermic injection of m. x. of a solution of morphine and atropine administered. 3:45 A.M., five more convulsions since preceding note. Venesection was then attempted from the brachio-cephalic, as the proximity of the brachial artery to the median basilic was considered dangerous, and only two ounces of blood extracted. 6 A.M., has had two more convulsions ; a hypodermic injection of morphine and atropine administered. 9:58 A.M., five convulsions since 7 A.M. ; the urine drawn off. Having been sent for, I found the pulse 132 ; temp. $102\frac{1}{4}$ in axilla ; was then requested to perform venesection, but declined, as, in my opinion, effusion had probably taken place. I administered tincture of veratrum viride gtt. xx. 10:25 A.M., violent convulsion ; I administered v. v. gtt. xx, and a full dose of elaterium and calomel. 10:58 A.M., pulse 106 ; v. v. gtt. xx ; slight convulsion. 11:25 A.M., enema of turpentine. 11:58 A.M., pulse 128 ; v. v. gtt, xx. 12:30

P.M., violent convulsion, evacuated enema. 12:58 P.M., pulse 100; I drew off four ounces of urine, administered v. v. gtt. xx, and withdrew. 1:25 P.M., has had another convulsion, pulse 80, feeble. 2 P.M., pulse 72, feeble; a free evacuation of bowels; administered infusion of digitalis 3ss; nauseated. 3 P.M., pulse 100, T. 100; free evacuation of bowels. 4:15 P.M., first return of consciousness, and having just returned, took some beef-tea at my request. She shortly afterwards became unconscious, and sinking rapidly, died on the 23d, at 6 A.M. The pulse was full and uncompressible during the first twelve hours. There were eleven convulsions before delivery, and twenty subsequent to it, thirty-one in all, and none for seventeen hours preceding death. No post mortem.

Case XVIII.—In 1864, I was called to a young married woman, twenty-four years of age, a primipara. She had been confined five hours previously. Her physician, a homœopath, had left her in convulsions, and they had been almost continuous. Her pulse was 120 full, and bounding. I immediately drew twelve ounces of blood from the median basilic, and although her urine was highly albuminous, she fell immediately into a quiet slumber and recovered without any untoward symptoms.

Case XIX.—On the 28th of July, 1876, a young woman, twenty-six years of age, a primipara, at term, was taken at nine in the morning with convulsions. A homœopath was called in, and at 10 P.M., Dr. Varian saw her. He sent for me, and as she was sinking rapidly and there was no possibility of saving her, the vertex presenting L. O. A., I advised the immediate delivery of the fœtus by means of the forceps, if possible. Although the marked contraction of the pelvis rendered its success somewhat doubtful, and I remarked to the doctor, it would be another Mrs. L. case, if we did not succeed in saving the child, the doctor then applied his forceps, which most of you are familiar with; remarkable by the shortness of the blades and length of the handles, powerful tractors I admit, but dangerous compressors, for there is no guide as to the degree of compression exerted, in fact, cephalotribes.

After considerable effort, the doctor succeeded in delivering the foetus, but with a pretty well crushed cranium. The patient died half an hour subsequently. It would have been better to have removed the foetus by abdominal section, for it could not have been extracted through the superior strait and pelvic outlet with any other kind of forceps; and, had the patient been seen earlier, I have no doubt Cæsarian section or craniotomy would have been performed. There was some degree of censure attached to the case, and I did, indeed, commit an error of judgment by not advising immediate ilio-pubic elyototomy.

CASE XX.—November 22, 1875, a young woman, thirty years of age, a primipara, at about 8 P.M. was taken suddenly with convulsions, and had four severe ones in rapid succession. At 12 A.M., when first seen by me, she was unconscious, pulse 100, and full, limbs œdematous, urine highly albuminous, and had had no convulsions since nine. An enema of turpentine was immediately administered to her, and shortly recovering her consciousness, complained of loss of sight and headache. The foetal heart and placental bruit quite audible; the os elongated and no indications of uterine contractions. I prescribed elaterium and resin of jalap, to be given every four hours until a free action of the bowels was obtained. The next evening she felt much easier, as the drastics had acted freely. She still complained of her eyesight, especially the left eye. As there had been no further indications of eclampsia, I told her friends that it would be advisable to watch her, and if there were any symptoms of convulsive seizures to induce premature labor and deliver her at once. I kept her bowels open, and as she was rather of a full habit, cut off all animal food. On the 12th of December, as there was a recurrence of cephalalgia and great visual disturbance, advised the induction of premature labor. This, as the os was firmly contracted and hard, I began with the douche; for this purpose I always make use of a syphon, and directed the patient to make use of it every four hours. On the 12th, at 4 P.M., the os was softer, and with the concurrence of Dr. C. F. Rodenstein, I introduced a sponge

tent ; at 6 P.M. I applied the douche ; 8:30 P.M., removed the sponge tent and inserted a flexible catheter ; 13th, 2:30, no indications of uterine contractions. Catheter removed ; 4 A.M., douche. At 4 P.M., the os was sufficiently dilated to introduce No. 1 of Barnes' hydrostatic dilators ; this I filled with two ounces of water, first injecting one ounce and half an hour subsequently, another ; 7 P.M., introduced No. 2, and filled ; 9 P.M., os rigid but dilating ; introduced No. 3 on the 14th ; at 3 A.M., the os was fully dilated, but no uterine contraction ; administered ergot, fluid extract, one drachm ; 5 A.M., uterine contractions have been manifesting themselves ; foetal heart weak ; vertex presenting in L.O.A. at brim. Dr. Rodenstein concurred with me as to the propriety of applying forceps. The doctor then anæsthatized her with chloroform ; when fully under the influence of it, I inserted the left blade with ease, but much to my surprise, I could not introduce my hand for the guidance of the right blade : removed the left, and first introduced the right with a similar result. The outlet was so small that it was a physical impossibility to introduce either hand after one of the blades was in situ. I accordingly requested the doctor, who had a very small hand, to introduce the right blade, which he did with some difficulty. I then locked them and readily delivered the child, but still-born. The mother made a rapid recovery. Her sight still troubles her, especially in the left eye ; she probably suffers from the affects of neuro-retinitis descendens, as the oculist informed her, that her physicians were to blame for not having prevented the convulsions. The distinguished specialist was right in the abstract, but medical advice was sought *post hoc*.

Of these eight cases, the two first (XIII and XIV) may be considered as of typical or reflex hysterical eclampsia. The third (XV) stands on the border-land between hysteria and uræmia. The kidneys in this case were, as shown by the examination of Dr. Flint, undoubtedly diseased, and no doubt the predisposing cause which led to the first four miscarriages, convulsions in the fifth, and convulsions, terminating fatally, in the

sixth. Dr. Elliot questioned my prognosis in this case, stating that "the uræmia of pregnancy was only temporary." This is no doubt true, but I regarded the examination made by Dr. Flint, and two subsequent ones with similar results, as conclusive evidence of a diseased condition of the kidneys, entirely independent of any direct influence of pregnancy, save the reflex influence of the gravid uterus, between the fourth and fifth months in each of her pregnancies, and reasoning *a priori* considered it my duty to warn them against an impending catastrophe—for "an ounce of prevention is worth a pound of cure."

In Mrs. L.'s case (XVI), I unhesitatingly induced premature labor. In her previous confinement, she had had a convulsion, and the fullness and rapidity of her pulse demonstrated an anæmic condition rather than congestive eclampsia. For we have two forms of uræmic puerperal convulsions, one which is essentially accompanied with anæmia, and the rapid exhaustion of the system in these cases demands immediate relief; the other form, the congestive, is fully illustrated by the three last cases. In two, the completion of parturition failed to arrest the convulsions. In one, venesection I am satisfied, saved life. In another, the want of it, I firmly believe, led to its sacrifice. *Veratrum viride* and other cardiac sedatives are very good in their way, but in the active hyperæmia of the nerve-centres accompanying congestive uræmic convulsions of the puerperal patient there is nothing like the lancet—its free and early use. It might be asked why I did not bleed in the last case, if it was congestive, or even why labor was not induced. The pulse was a hundred, full, but compressible; the convulsions had ceased; there were no evidences of anæmia or impending exhaustion; the mischief done to the eyes, the neuritis decedens, was beyond control. Therefore the indications were clearly to relieve the hyperæmic and over-charged kidneys by drastic cathartics, to regulate the diet, and await developments; in other words, watch the indications of nature. It is by following the delicate shades in differential

diagnosis, as presented by the above mentioned cases, that we are enabled to raise therapeutics above empiricism.

THE INDUCTION OF PREMATURE LABOR

Is a point of great importance, and its perfection one of the giant strides in medical science. It has, as well known, to be performed in cases in which the mother's life is placed in jeopardy, at any period of gestation. Prior to one hundred and eighty days, it is legal abortion; subsequent to that period, it bears its proper cognomen, if, from albuminuria, we delay it as long as possible. From pelvic deformity, tumors, etc., not later than the seventh month, nor earlier than six months and a half. There are other causes, such as anæmia, phthisis, etc., which may require interference, but it is needless to discuss them.

In the resume of my cases, I stated that I always used one of the syphon syringes for the douche. The motive is that the douche, with an ordinary syringe, is not free from danger, for it may force air into the uterine sinuses, or else cause shock by the force of the stream. The intra uterine douche may of course lead to the separation of the placenta, but the syphon douche, with a large nozzle, gives you a steady stream which is much more effectual than the spurting streams of the piston pump. Thanks to Mr. Barnes, we have, by means of his *hydrostatic* dilators, a much more reliable means of effecting the dilatation of the cervix. Yet I have been surprised that some physicians have made *airostatic* dilators of them. This is as fraught with danger as the douche, or even more so. A physician who was assisting me in a case of premature labor, was surprised at my using water. I told him that if the dilator should happen to burst, which was not likely with water, there would be but little danger of shock, and still less of air being forced into the uterine sinuses. It is only a short time since a physician, who has had a large obstetrical practice, related a case to Dr. A. M. Campbell and myself, in which he had made use of air to distend a Barnes dilator. Suddenly there was a loud report—his patient

was very much prostrated from the shock, but soon rallied when told that it was only the dilator which had burst.

THE VIABILITY OF THE CHILD.

It is, of course, a well known axiom, that the nearer the child is to term, the more likely is it to live, but there are cases of deformity in which it would be advisable to deliver the child as soon as possible. If done prior to the sixth month, it is not much better than craniotomy; therefore I should prefer to wait and perform Cæsarian section, or more preferably, ilio-pubic elytrotomy,* recently revived and judiciously modified by Dr. T. G. Thomas, and also successfully performed by Dr. Skene. It is entirely unnecessary to discuss the *pros* and *cons*. I simply make this statement: There are two beings, which, in all probability, can go safely to term. Are we the judges of which life shall be destroyed? Certainly not. We must try and save both! Of course, if the mother can not be safely carried to term, we must, as in Mrs. B.'s case, sacrifice the embryo, for it surely can not go to term without its mother. Hence, we have no option; the lesser must be sacrificed for the greater. At the battle of Woerth, MacMahon gave us a beautiful illustration of this principle, when he ordered the cuirassiers to charge the foe. Their commandant exclaimed, "'Tis death!" The Marshal, embracing him, replied, "'Tis to save the army!" Those two thousand heroes charged, and charged again, until there were but eighty-two left; but MacMahon had effected his retreat, and the army escaped annihilation. In Mrs. B.'s case, I *sacrificed* the *embryo* and *saved* the *mother*. In her next pregnancy, her life, *as predicted*, paid the forfeit to the vain idea of carrying her to term. We know that the viability of the foetus between one hundred and eighty and two hundred days, is not probable, but the following cases show that it is possible. In both the premature labor was accidental.

* Since this was written, Dr. Thomas has named this operation *Laparo-Elytrotomy*, as the derivative of *laparo* is loins, flank. The name is manifestly improper on anatomical and surgical grounds. I should, therefore, prefer to call it, as Dr. Barker suggested, the *Thomas operation* (Med. Record, Vol. 3, No. 13, p. 256.)

CASE XXI.—March 14, 1864, was called to a young married woman. She had only been married four months, and was evidently in labor. Her mother thought it was a miscarriage, but on questioning the patient closely, found that she dated her pregnancy at a fraction over six months. After twelve hours, the child, a girl, was delivered. Much to my surprise, its heart was pulsating. I endeavored to resuscitate it, in spite of the violent protest of its grandmother, and in an hour it was breathing naturally. I pacified the old lady by informing her that if it lived forty-eight hours, I would have it cared for, and no one would be any the wiser. The child's scalp was almost hairless, and its finger nails barely formed; the fontanells and sutures quite open. She only lived thirty-six hours, much to the satisfaction of the grandmother.

The next shows what proper care and attention will do in a similar case (XXII). This lady, twenty-four years of age, had been married two years. She menstruated last in the middle of April; on the 13th of November, she strained herself; on the 20th, labor pains began, the membranes broke; and I found at 12 A.M. the os rigid, about the size of half a dollar, and the right foot protruding; at 6 P.M., the other foot had come down; the os rigid, but more dilated; at 7 P.M., the right foot was quite discolored; I then drew the child down; the os was still rigid, presenting that characteristic sharp edge; but I succeeded in getting the left arm down, and then tried the other arm, which readily came through. The right side of its body was cyanotic; its heart, however, pulsated. After one hour and a half's efforts, I left it wrapped up in cotton, breathing quite satisfactorily. He weighed two pounds and a half, scalp almost hairless, finger nails imperfect, scrotum empty; evidently he was not more than a six and a half month's fœtus. I kept him wrapped up in cotton for two months, and in a hot water bed made for that purpose, at a temperature between ninety and a hundred. The wet nurse for the first six weeks milked her breast into his mouth. He thrived well. At four months, had an attack of parotitis, with slight convulsive seizures, which terminated in suppuration. Dr. Detmold then

saw him in consultation with me, but as the abscess had opened in the external meatus, surgical interference was not deemed necessary. He died at fourteen months of pneumonia.

In relating a case of version, I alluded to the contagiousness of

PUERPERAL FEVER.

This disease is the scourge of lying-in asylums, and I might say the scourge of the private patients, in the higher walks of life, of physicians who labor under the delusion of its non-infectiveness. (*Vide*, statistics in Barker's puerperal diseases). The great urgency of arresting its spread at the inception of an epidemic is then all important. The following facts occurring in my clinical experience are therefore pertinent and should be recorded: In the latter part of April, 1860, during my second term of service in the lying-in department of Bellevue Hospital; two patients were taken ill in the night with symptoms of puerperal fever. At two o'clock in the morning, I had them transferred to the fever ward (then known as ward 22). The other patients were sent to different medical wards. All the bedding removed from ward 26, and the lying-in ward proper. The two rooms, closets, and nurses' rooms thoroughly disinfected by means of chlorine gas. Two days subsequently I turned over the department to Dr. Hadden, who did not have a case during his term of service. The two cases previously mentioned terminated fatally, and were the only ones which declared themselves among my convalescents, thirty-five in number.

The summary of the preceding notes, or rather of my clinical experience, presents the following aphorisms:

1. Bimanual manipulation at the brim will facilitate the engagement of the head in the superior strait, thus avoiding the conversion, in a contracted pelvis, of a normal presentation, either into an anomalous one, or causing impaction and its dangerous sequences: pelvic cellulitis, fistula, etc.

2. In the application of forceps at the superior strait, light forceps are useless, in fact, injurious.

3. The degree of elevation of the patient in the dorsal posi-

tion, is an important factor in facilitating traction in the axis of the superior strait.

4. When the forceps have been applied at the superior strait, or at the brim, it is important, whilst making traction, to follow the sweep of the curve of carus, thus avoiding lacerated perinæums.

5. In making traction, avoid exaggerated side-to-side lever action, or swaying motion, thus avoiding vaginal lacerations.

6. When the head reaches the vulva disengage the forceps, thus avoiding perineal lacerations. Yet a contracted outlet may require the continuance of the tractors, and the risk must then be incurred.

7. At the inferior strait, with the head resting on the perinæum, aside from the danger of vesico-vaginal or of recto-vesical fistula, the application of the forceps should not be too long delayed, lest the compression of an entangled short cord might cause the death of the fœtus.

8. Forceps, in a contracted pelvis with a conjugate diameter of scant three inches, is preferable to podalic version—therefore, the latter should be made use of when the former has failed.

9. At term, with a conjugate of less than three inches, version should not be attempted, as it will, almost inevitably, be followed by craniotomy or decapitation, frequently causing the death of the mother from exhaustion or shock.

10. In contracted pelvis, premature labor should be induced as early as is consistent with the viability of the fœtus.

11. In albuminuria, with cerebral complications, the induction of premature labor should be delayed as long as is consistent with the safety of the mother.

12. In the induction of premature labor, Barnes' hydrostatic dilators are preferable to the douche.

13. In puerperal convulsions, venesection is essential in the congestive form; hypodermic injections of morphia in the reflex.

[To be continued.]

ART. II.—*Aconite*. By Starling Loving, M.D., Professor of Theory and Practice in Starling Medical College, Columbus, Ohio. Read before the Columbus Academy of Medicine.

Of the many species of aconite known to botanists, one only, *Aconitum Napellus*, appears to have been used in medicine, though all possess activity from an identical principle in different degrees. Exceptions to this seem to be occasioned by transplanting and by the influence of climate, but these influences do not appear to have uniform effect, for though we are informed that in Sweden and Lapland, and also in Poland, the leaves of aconite are used with those of other plants in making salads, and are eaten commonly with impunity, instances are not infrequent in which poisoning results with dangerous or fatal effects.

There is nothing singular in this, for like difference in qualities is observed in other plants under similar circumstances. *Hyoscyamus* in Italy, has but feeble powers when compared with that grown in Great Britain, and I presume all present remember the story of the *Ricotia Egyptica*, which, when transplanted to France, grew vigorously, but refused to flower until, at the suggestion of Linnæus, earth was brought from its native place and put around its roots.

The powers of this drug are dependent upon the presence of a single principle, the alkaloid aconitina, which exists in all parts of the plant, but in unequal degrees. A late authority* states that it is found in largest proportion in the tubers which appear upon the main root in the spring. The seeds contain a large percentage of the active principle, as shown by the fact that when even one is chewed, the characteristic local effect of the medicine is displayed in numbness and tingling, with loss of sensibility, in the mouth and throat.

The leaves and root are the officinal parts, and of these the root contains the most uniform proportion of the alkaloid, which is found in some specimens to be as high as three-fourths of one grain to the ounce; one pound of the dried root will yield from twelve to thirty-six grains.

The alkaloid is variable in strength, from the fact that it is fre-

* Woodman and Tidy.

quently adulterated with delphinia and aconella, which are comparatively inert.

Although the fresh root and leaves are most active, it should be remembered that age and even a degree of exposure, do not wholly destroy the power of the drug; unexpected effects will sometimes result from the use of very old specimens.

Fatal poisoning has resulted from the root, leaves, and stalks. Severe disturbance has arisen from the handling of the fresh plant and from the inhalation of the dust arising during the powdering of the root. The smallest quantity of the root known to have caused death was one drachm, of the alcoholic extract four grains, of the tincture (whether of the leaves or root not stated) one fluid ounce. *

Very little is positively known as to the period when aconite was first used as a medicine.

The most ancient medical writers describe it but as a poison, not as a medicine.

Theophrastus, Dioscorides, Pliny, and others, describe it in terms indicating that they held it in awe as a mysterious, subtle, and terrible poison, of supernatural origin. For, says Diodorus Siculus, in the forty-fifth chapter of his fourth book: "She, Hecate, being skilled in the composition of deadly poisons, was the first to discover the plant called aconite, and was accustomed to make trial of the efficacy of every poison by mixing it with the food set before strangers."

In mythological literature, also, it is stated, that this terrible poison had a supernatural origin, having sprung from Cerberus. "For it is related that Cerberus being born, could not endure the rays of the sun, and vomited, and from the vomit sprang the plant. But the Acheron is a river in Heraclea, in Pontica, where Hercules led out the dog from Hades, and the hill is called acqnitos."

The name Wolfsbane, is, undoubtedly, of ancient origin, for Dioscorides (Book IV., Chap. 78), says, "The roots are employed for catching wolves, placing them in pieces of raw flesh, which being eaten by the wolves, they kill them."

* Woodman and Tidy.

We are informed on the authority of Dioscorides, that Aristotle destroyed his life by drinking an infusion of the root, a proof that Aristotle was originally not so wise a man as reputed, or that he became insane in his more advanced years, the latter probably being the truth.

Galen, in the IVth Book on Simple Medicines, speaks of aconite as a deadly poison, but says it is a proper remedy for corroding the parts outside the mouth and anus. He is careful to add that the root is the only part of the plant which should be used for this purpose.

So, it appears that at the time of Galen the plant was used as a medicine—probably only as a local application ; previously it seems to have been known only as a poison.

Pliny makes mention of aconite as a poison, but also says, “But the ancients asserted that aconite might be mixed, with the best results, with medicines for the eyes, openly professing their belief that there was no evil that had not some good in it.”

Pliny, doubtless, had better knowledge of the works of the ancients than those who have lived since his day, for none of the other authorities, quoted, make mention of the use of the drug, except as a poison, although it may be that they, wishing only to describe its poisonous properties, took for granted, as many writers of the present time are in the habit of doing, in describing alcohol, opium, etc., that every one knew of its medicinal properties and uses—still, Pliny mentions, as does Galen, that it was used only as a local remedy.

Avicenna is the first authority, so far as I can ascertain, who describes the mode in which aconite acts as a poison. He says, “It causes hemorrhage from the nose and bloody expectoration, and speedily proves fatal to dogs.” Further on, in the same chapter, he says, “And is administered neither internally nor externally ; that Napellus is among the worst (poisons.) And it happens to one having drunk it that his lips become swollen, his eyes protrude, frequent vertigo and syncope come upon him, and he is neither able to exercise or move his legs, and his condition is pitiable, and those who escape from this seldom escape falling

into a hectic or phthisis, and sometimes the odor produces epilepsy. Arrows are dipped in its juice, and kill, with great speed, whomsoever they come in contact with."

Avicenna seems to have had some experience in treating poisoning by the drug, for he recommends several antidotes, among others emetics of mustard seed, a decoction of acorn shells in wine, theriaka, and the mouse which lives in the root of the plant. The last, for one of the fathers, is somewhat homœopathic, but the first are recognized as good remedies at the present day.

In the same book, further on, he again describes poisoning by aconite of other species. In this description stress is laid on dryness and swelling of the palate, uvula gullet, and trachea, with disturbance of the bowels, and cerebral symptoms, as giddiness and convulsions. He again recommends, as antidotes, emetics and injections, with stimulants, absynthe wine, in which iron has been dissolved, rue, and ointments.

In Fœsius' edition of the works of Hippocrates, published in 1657, as translated by that writer, page 418, the father of medicine is said to have recommended aconite as a refrigerant in febrile heat—*medicamentum refrigerans*. Some good authorities, however, doubt the correctness of the translation.

Matthioli seems to have been the first to test the power of aconite in different quantities as a poison, and the influence of several substances which were in repute as antidotes to its effects. His experiments were more important, as they were made on human subjects—"criminals condemned to death." He seems to have been successful in saving the lives of his patients, but it is not clear how much of the poison he used, so there is some doubt whether sufficiently large quantities were administered to cause fatal effects.

Various other authorities, among them Dœdens, Guaner, and Bauhin, might be quoted, as adding testimony to that already quoted, as to the poisonous properties of the drug. Bock mentions a fact which does not seem to be understood at the present time, namely, that when the root, seeds, or the plant itself when

green, is reduced to the proper form and made into a salve with oil, drives away lice and nits. If this be true, the remedy is more pleasant and not more dangerous than others—stavesacre, for example, which are now used for this purpose.

Von Helmont asserts that aconite is capable of producing madness. He took it, as appears from his writings, that he might, through its effect, discover the seat of the soul. He says, "And once having roughly prepared its root, I tasted it with the tip of my tongue; and, though I swallowed none of it, and spit a great deal of saliva, I felt, quickly after taking it, as if the outside of my head was bound about by a zone. Yet, it happened to me (what I had never experienced at any other time) that I felt that I was neither able to understand, conceive, to be wise, nor to imagine in my head, as I was accustomed to do at other times, but I understood with delight—clearly, openly, intelligently, and constantly—all this faculty being centered in the præcordium, or diffused about the mouth of the stomach; and this I felt clearly and sensibly, and even noted it attentively, that, although I felt sense, motion, and exhalations scattered from the head all over, yet the whole power of mental digression was clearly and sensibly situated in the precordial region, and not at all in the head, and there it was that the mind seemed then to perform its deliberations. After about two hours, I was seized with a light kind of vertigo, which was twice repeated. And, although I tasted the same napellus several times afterwards, nothing of the kind ever happened to me again."

This is slightly on the marvellous and transcendental order, partaking very much of the character of Hahneman's "provings," and does not accord with what has been ascertained by any other observer who has honestly sought to know the effects of the drug. Von Helmont seems to have been quite an experimenter, sometimes from a desire to gratify his own curiosity merely, and, it would appear, now and then, to get the therapeutic effect of drugs to relieve his ailments. He states that, having contracted syphilis, he took mercury to salivation, fully believing

that he should be speedily relieved, but, notwithstanding he spat a half gallon a day he grew no better.

Heraclæus Saxona used aconite in 1600 as a remedy in plague. In 1617, Bernitz asserted that the leaves of aconite might be, and were, safely used as food in the form of a salad. He states, that the leaves which he saw used for this purpose were plucked from plants which had been previously transplanted from the Carpathian mountains. That climate affects the activity of this plant is proven by the observations of a number of authorities, among whom Linnæus is prominent.

That gentleman stated, when in Lapland, he saw a woman gather the young plant, and, after preparation, eat it as a salad. Goats seem to eat all parts of the plant with impunity, but in this there is nothing strange, for it is well known that these animals eat many deleterious substances with safety.

It is stated by several authors, of whom was Lentilius, that cases of poisoning have occurred from handling the plant; there is nothing extraordinary in this, as we see the same result from the handling of tobacco.

Medico legal writers and authorities early noticed this substance as a poison. In 1657, the College of Physicians and Surgeons of Copenhagen decided that it is a poison, generally fatal in sufficient quantities.

So far, we observe that men in the earlier periods of the history of the plant, seemed only to wish to ascertain whether the ancients were correct in the opinion which they held with regard to its supernatural properties as a poison, and whether certain substances have any power as antidotes. A few ventured to use the drug remedially, but, until the time of Stork, in 1761, it was not regarded as a medicine which might be prescribed in the management of ordinary cases.

Stork investigated the effects of aconite with those of other drugs supposed to be poisonous and unfit for medicines, and declared that "the plant might be given with safety to the sick." This declaration, and his further experiments, encouraged others

to apply the medicine in the treatment of various maladies. One of the earliest dissertations was that of Andræ, in 1768, on the Beneficial Effects of Aconite in Arthritis. This was rapidly followed by monographs from the pens of other authors too numerous to mention. Some of these, while praising the effects of the medicine as a curative, did not fail to discover and note its capacity for harm when incautiously administered.

Hertz, in his Letters to Physicians, mentions the case of a young woman who suffered from rheumatism obstinate in character, for which he prescribed the powdered root in rapidly increasing quantities, until he gave it in doses of two scruples several times daily. "All at once," says he, "she was seized with violent giddiness, began to wander, and, finally, violent delirium set in, her rheumatism disappeared, but it took several weeks and a great deal of care to cure her new and worse disease."

We should, with our knowledge of the drug, feel no surprise at the manifestations of such symptoms, after a few doses of two scruples each.

About this time, aconite was formally received into the *Materia Medica*. The celebrated Dr. Murray was among the first to give it a place in his *Apparatus Medicaminum*, wherein he praises it highly. Others as Gmelin and Plenck, notice its qualities as a medicine and as a poison, and Scopoli said, "The most dreaded poison has become the best medicine;" but it soon passed into neglect and disuse, from the fact that it was expected to do more than can be accomplished by any medicine, and up to within a recent period, it was not used except by a very few.

In 1805, Hahnemann wrote concerning its effects. He ranked it above all other medicines, and stated that it is capable of producing one hundred and forty-seven different symptoms in persons in health!!

He says nothing of the dose nor the circumstances under which he administered it, but that his experiments were performed with the juice of *A. Napellus*, which had been thickened in the sun. In 1811, he published the first edition of his *Materia*

Medica Pura, in which his observations on the effects of the medicine are continued, and the number of symptoms which it produces is greatly increased. Soon after, with the homœopaths, in consequence of the doctrine of *similia similibus*, it came to be considered a remedy universally indicated in acute diseases; especially those attended with fever and pain, in idiopathic as well as in symptomatic fever. These gentlemen seem not to have changed views with regard to the medicine since Hahnemann's time, for it is now used by them to meet the same indications, and is held as of the same importance and rank in which it was placed by him. The idea seems to be that the medicine controls the fever process arising from whatever cause, and in addition proves beneficial in many conditions of hyperemia and inflammation. Some homœopathic writers, Teste who I believe is considered good authority among them, is careful to say that while useful in many conditions characterized by hyperemia or inflammation, it is not so in all. He excepts pneumonia and croup. While a case of either disease may be cut short by the remedy, if it is prescribed in the initiatory stage, he does not think it proves curative when inflammation is fully established and effusion has taken place. This is very nearly the opinion entertained by the regular profession with regard to this and other drugs.

The effect of Hahnemann's writing was two-fold; in the first place it excited curiosity in the minds of many concerning an almost forgotten medicine, and many papers giving the results of experiments appeared. Among distinguished men who experimented and wrote, were Guthrie, Turnbull, Pallas, etc., and later, Fleming and Schroth. So far as knowledge of the effects of the medicine are concerned, but little has been added since Fleming and Schroth. The more accurate observations of later experimenters from extended knowledge of physiology and pathology, have added something to what was known of the mode of action and the parts acted upon, but on the whole, not much has been gained since the period to which I have referred.

The second effect of Hahnemann's doctrines was to excite on

the part of the regular profession prejudice against aconite as against everything else pertaining to his peculiar system, and this was so strong as to prevent many men from using the medicine in any shape or for any purpose, and to this day, so strong is this feeling that many practitioners never use it.

Many declare it to be a homœopathic fraud, wholly unworthy the confidence of the honest physician, while others confess themselves ignorant of its effects, because taught that it is unimportant as a remedy.

Many of the latest writers are inclined to give the medicine the rank which it deserves in the *Materia Medica*, and have devoted much space to its consideration.

Wood, in 1856, quotes mainly from Fleming and Schroth, adding what had been gained in the intervening time, and urges the profession to use the remedy.

[To be continued.]

ART. III.—On *Anæmia*. By JOHN C. PETERS, M.D., President of the Medical Society of the county of New, and of the New York Pathological Society; Vice President of the New York Therapeutic Society, etc.

Anæmia is a deficiency, or diminution of the quantity of blood. It is frequently associated with spanæmia, or poor blood; with hydræmia, or watery blood; and oligæmia, or thin blood.

It is *primary*, when there is an insufficient production of blood, and *secondary*, when the quantity of blood is reduced by hemorrhages, or by profuse discharges of watery, mucous, or albuminous fluids, such as occur in aggravated cases of diarrhœa, leucorrhœa, cauliflower excrescence, and all wasting diseases, in which it seems as if the blood globules are also melted down to supply the profuse drain upon the system, and are not reproduced on account of the debility of the digestive blood-making organs.

Hodge says anæmia may be caused by want of vital power, a state of general atony attended by sedation. Becquerel alludes to a mild form of anæmia corresponding to a slight decrease of the red blood globules from the normal standard of 127 to 120, or 110, the remaining constituents of the blood retaining their normal proportions. He thinks this is produced by insufficient nourishment, habitual exposure to cold and moisture, prolonged vigils, hard labor, grief, change of climate, removal from the country to the bad atmosphere of cities, etc. It is characterized by slight emaciation, pallor of the face, sluggishness of the functions generally, with some diminution of the muscular power, with no actual pain or suffering, and no bellows murmur in the vessels of the neck. It is a stage which precedes many acute and chronic diseases.

Aitkin refers to anæmia from insufficient and improper nutriment, or from disturbances in the digestion, absorption, and assimilation of food, and the processes of sanguification; or from repeated, or temporary interruptions to the oxygenation of the blood, such as living in bad air, badly ventilated sleeping rooms, etc. When it arises from insufficient food, the effect of a greatly improved diet in increasing not only the amount of red corpuscles, but the albumen of the serum becomes very evident in cases in which iron has been previously administered, with some, but not marked benefit, while, on improvement of the diet, the amelioration is rapid.

The deprivation of fresh air and light can scarcely be overestimated. Even the best food will not be converted into healthy blood, if air and light are withheld; while a coarse and insufficient nutriment will not always prevent a person from having a ruddy color, if he be much in the open air. It is in these cases, in addition to food and iron, that oxygen is so useful.

In the worst forms of anæmia a fatal result may occur when no disease is found in the body. Wilks and Moxon have noticed patients to die, after being in an almost bloodless condition for months, and all the organs were merely found pale, but with

some commencing state of fatty degeneration. There was, also, generally, some exudation of serum into the serous cavities and œdema of the lungs and other parts. They have seen several cases in which the blood resembled pink water, and formed no coagula in the vessels or heart. The heart exhibited, in a marked degree, that form of fatty degeneration in which the internal surface, especially the left ventricle presents the peculiar mottling from fatty change in the muscular fibre. Jones and Sieveking also report extreme instances in which the nutrition of the heart had suffered so much that sudden and fatal syncope was the result. Such patients should be enjoined to avoid sudden efforts, and to remain as quiet as possible until some degree of strength and tone is restored. They think the heart is weak and dilated, as well as fatty. Bitter tonics, especially *nux vomica*, are required in these cases, and the tonic alkalies, like ammonia.

Da Costa says whatever may have given rise to the anæmia, the patient is weak and pale, the lips and tongue have lost their red color, the pulse is feeble, but generally accelerated, the appetite is deficient or depraved, and the bowels are apt to be costive. Exercise induces great fatigue, shortness of breath, and palpitations, with cardiac murmurs or blowing sounds in the cervical veins, sometimes so persistent as to lead to the suspicion of structural changes in the heart. In some cases there may be obstinate headache, or dropsy, or a persistent pain in the left side in the region of the spleen. He omits mention of anæmic urine, which is copious, pale, and limpid. In contrast to febrile urine, Becquerel has distinguished an anæmic urine, depending upon a deficiency of blood, and occurring in various forms of debility. It contains far less coloring matter, urea, and uric acid than normal urine; the diminution of the salts, as compared with the quantity usually excreted, is inconsiderable; the extractive matters only differ slightly from the physiological average. Aitkin says: One constant urinary character attends both anæmia and chlorosis, viz.: a diminution in the urine pigment, which is often reduced to $\frac{1}{4}$ or $\frac{1}{6}$ of its normal amount. Very generally there

is also lessening of the free acidity, and the urine, which is pale and almost neutral during the whole of the twenty-four hours, is almost as good an indication for the use of iron as the pallor of the skin itself. The amount of iron in the urine of anæmia is often very small. The quantity of urine may not be decreased, and may be, in some cases, large. Its specific gravity is low.

Day says: In true anæmia, by which we understand a deficiency in the quantity of the blood, the fluid exhibits no peculiarities of composition. The term anæmia is, however, often incorrectly used to signify hydræmia, which is a frequent concomitant of dropsy. The blood is then very attenuated, pale, and watery, and coagulates into a loose, gelatinous clot. Its composition is the same as in Bright's disease, except that there is usually no excess of urea.

The condition of the blood is supposed to give rise to three kinds of anæmic murmurs, viz: 1st, cardiac; 2d, arterial; 3d, venous. The cardiac anæmic murmur is a bellows-sound, sometimes intense, sometimes faint, and is systolic, heard towards the base of the heart, while that from organic disease is generally heard at the apex. The diastolic murmurs are generally venous, and are, more or less, increased by suspension of respiration.

The arterial anæmic murmurs are rarely heard. They consist of an intermitting blowing, sometimes soft, sometimes sharp, synchronous with the beat of the pulse, which sometimes gives a thrill to the finger, so that the murmur may be inferred by practice from the nature of the pulse. They are only heard on the larger arteries, such as the brachial, subclavian, femoral, carotid, and abdominal aorta. They are most frequently heard after great losses of blood, and sometimes in chlorosis.

The venous murmurs or hums, significant of anæmia, are continuous humming, buzzing, occasionally musical or singing, and thus easily distinguishable from the blowing intermitting arterial sounds. They are most frequently heard on the right side of the neck, at the junction of the external and internal jugular vein; but they may also be heard in the femoral veins in their maxi-

num of intensity. They may also be heard over the course of the superior longitudinal sinus, and loudest over the torcular herophili. They are supposed to be produced by abnormal oscillations of the venous valves, or by sharp collision among the blood discs passing from sideward veins into a larger vessel. When the venous murmurs are strong, they may not only be heard, but also felt as a gentle thrill by placing the finger upon the part. They are seldom absent in well-marked anæmia. Dr. Ogier Ward attributed them to the descent of attenuated blood through the great cervical veins.

The anæmia from hemorrhage is peculiarly apt to be associated with hydræmia, for, after mere loss of blood in quantity, the water and salts are renewed with more rapidity, the albumen later, then the colorless corpuscles, and last of all the red blood globules. Hence it is that anæmia is frequently associated with a watery condition of the blood, as well as with a lessening of the number of red globules.

In exhausting diseases, there is not only a consumption of blood globules, but there is a deficiency of albumen and an excess of salts.

It is very important to recollect that in every acute disease which occurs in an anæmic individual a very high degree of debility and prostration quickly ensues, convalescence is protracted, and all severe intercurrent diseases acquire a lingering course.

Ferrum: According to H. C. Wood, the chief indication for the use of iron is the existence of anæmia; the contra indication, a state of plethora. As iron constitutes a necessary ingredient of the red blood globules, it is a food rather than medicine, and should be used far more frequently than quinine, in the exhaustion from acute diseases, and the consequent anæmia which always follows them; still, it always requires the assistance of very nutritious food to aid its action, for a very large proportion of the various articles of ordinary diet contain quantities of it sufficient for the use of the system in its normal state. The fluid and solid articles of food contain so much iron that a portion of

it is always thrown off with the solid excrements. Nature has provided that the animal organism shall receive the necessary quantities of this essential metal with every kind of food. All portions of the body supplied with red blood contain it ; it has also been found in the chyle, lymph, urine, sweat, bile, milk, hair, cartilage, etc. When the power of digesting or assimilating is impaired, or an abnormal excretion of it occurs, then true simple anæmia is caused, for then the blood also contains comparatively few red discs. Although this state constitutes an imperative indication for the use of iron, it also more positively calls that the iron shall be assimilated. Under its use, if the cause of the anæmia be prevented from operating continuously, the color returns to the cheeks, because there is an absolute increase of the hæmato-globin in the blood. In Simon's case, under the steady use of iron for sixty-four days, the globuline increased from 30 to 90 parts per thousand, and the hæmatin from $1\frac{1}{2}$ to $4\frac{1}{2}$. This increase was due certainly in part to the supply of the peculiar stimulus of the red globules, but, as they are also most largely made up of albumen, food must also be supplied, of which rare beef, or mutton, or the juice of these meats, and beef, or mutton tea, made in the same way as beef tea, are the best. Iron acts not merely as a food, but also as a veritable stimulant to the organs which produce the red blood globules, especially the lymphatic glands and spleen. When given to healthy persons, iron increases to some extent the number of the red blood globules and produces a degree of plethora ; but, after a time, the blood appears, as it were, to become saturated with it, and ceases to assimilate it. Thus, Brucke found that, when administered continuously, after a certain period the ingested iron began to escape from the kidneys so rapidly that it could be recovered from the urine with but little loss. It appears, to A. Sape, to be well established that one of the functions of the red blood corpuscles is to convert oxygen into ozone, and the oxide of iron certainly possesses an ozonizing power similar to that of the red discs. An increase of iron in the blood increases oxida-

tion, with an elevation of temperature, and increased elimination of urea. In anæmia, after the exhibition of iron, the temperature does rise, and there is an increase in the daily elimination of urea. The increased oxidation is not due simply to an increase in the number of red globules, for these are developed slowly, while the temperature rises within five hours after the exhibition of the first dose of iron. The amount of iron in the urine of those taking ferruginous preparations was found, by Becquerel, to vary very greatly and unaccountably from day to day, but the elimination commenced as soon as the administration. The soluble salts of iron are not always those most readily absorbed, for they are often precipitated in the stomach by the gastric juice even when this is strongly acid. According to Mialhe, after the entrance of an iron salt into the blood, its power of acting depends upon its capability of being decomposed by the alkalies of the blood in such way as to give origin to the albuminates of iron. The reduced iron is probably the best chalybeate; but if a soluble preparation be desired, the ammonio or potassio tartrate are said, by H. C. Wood, to be very unirritating. When iron is given in the usual doses, but a small portion is absorbed, the remainder escaping with the fæces, to which it imparts a black color, owing to the conversion of the iron into tannates and sulphates; the tannic acid of the first being derived from the food, the sulphur of the second from the intestinal gases.

The reduced iron is a powerful hæmatinic and tonic, which possesses the blood restoring powers of iron without any astringency. In anæmia, it exerts the same beneficial influence as other ferruginous preparations. The dose is two to five grains in pill, after meals.

The ammonio-citrate of iron is a mild and valuable tonic and blood restorer, in doses of five to ten grains. It is particularly adapted for children, and for those cases where the stomach is too irritable to bear more powerful salts. Its taste is not unpleasant, it is scarcely astringent, and it is exceedingly mild and unirritating. It is most useful in debility after exhausting diseases,

and in the anæmic states of children. The arseniate of iron is chiefly used in skin diseases, accompanied by anæmia, but it is very serviceable in anæmia from leucorrhœa and other chronic uterine affections. The bromide of iron is most useful in lymphatic anæmia, when attended with glandular enlargements, or enlargement of the uterus or ovaries. The saccharated carbonate of iron has been used successfully by Graves in anæmia with extreme constipation, in which patients had been obliged to take immense doses of purgatives every week. It cured the constipation, also, without the aid of any other remedy. The ferro-cyanide is a tonic sedative used in anæmia with nervous disorder, and even in epilepsy. The iodide of iron is used in anæmia with amenorrhœa, and in lymphatic anæmia; it promotes digestion, increases the appetite, and improves the general health. It is eliminated by the kidneys. In anæmia connected with phthisis and scrofula, it is considered one of the best of tonics, and in all cases of anæmia associated with glandular enlargements, amenorrhœa, chlorosis, leucorrhœa, albuminurea, organic disease of the ovaries, etc. The *lactate of iron* is not as useful as the chloride, although lactic acid exists in the gastric juice; still, it is used in anæmia and amenorrhœa. The *muriatic tincture of iron* is hæmatinic, tonic, astringent, and diuretic, and one of the most powerful preparations of iron. It exists in the gastric juice as the protochloride, and is most useful in anæmia from dyspepsia. In chlorosis, Golding Bird considers it the best form of iron which can be employed. In albuminurea anæmia is present, and the red blood globules have been found much impoverished, and the salts of iron are clearly indicated. Dr. Heaton advises this tincture as the most active and beneficial, and one which combines diuretic and chalybeate properties. In the majority of cases the improvement was most marked and unequivocal. In anæmia with dyspepsia, it is recommended by Todd. Also, in hysteria, with anæmia and debility, combined with spirits ammonia aromatici, it is often signally beneficial, in doses of eight to ten drops. The peroxide of iron is disagreeable in taste, but is blood

restorative, tonic, and emmenagogue, and is of great value in anæmia. Dr. Ashwell gave eight grains, with ipecac gr. i., and hydrag. cum-cretæ gr. ij., when the liver was torpid. *The phosphate of iron* has been suggested, because it exists as a phosphate in all other fluids of the body, except the blood and gastric juice. The phosphate is of a slate color, and the per-phosphate is white and tasteless. They are blood restoratives, tonics, and alteratives, which Tanner thinks do much good in anæmia dependent on too severe mental occupation, in which the blood gets poor and watery in a marked degree, as over-work of the brain produces deterioration of the vital force as certainly as too prolonged or too intense muscular action, or an insufficient supply of nourishment.

“Stille says there is a gastric debility which sometimes renders the digestion of iron and of all nutriment extremely imperfect, until the administration of acid, alcoholic, or bitter stimulants, enables the stomach to perfect the conversion of medicinal iron into a constituent of the living body. To look upon iron as a specific medicine which must necessarily cure anæmia under whatever form, or with whatever complication it may occur, is to lose sight of the plainest teachings of experience in regard to the curative operations of all remedies whatever. It is by a skillful discrimination of the peculiarity of individual cases, and a judicious adaptation to them of remedial measures that the true physician is pre-eminently distinguished from the routine practitioner.” The sulphate of iron is regarded very generally as the most effective of the salts of iron in anæmia. It may be given in the form of a pill, with extract of gentian, when there is great debility of the stomach; with conium, when the nervous symptoms are prominent, or with an apenent, or pil. rhei co. or aloes, when there is constipation or amenorrhœa. Dr. Trumbull used it more frequently than any other preparation of iron, and found it one of the most efficacious. He speaks favorably of equal parts of sulph. ferri, aloes, and hyosciamus. Dr. Ashwell advises it in combination with hops, thus: Ferri sulph., grain j, ij; extract

humuli, grain ij, iij, three times a day. Drs. Abercrombie and Hope employed it in the palpitations of anæmic, states, combined thus : Ferri sulph., grain ij ; aloes, grain ij ; pulv. cinnamon, grain v., made into two pills to be taken at dinner-time and repeated at night, if necessary. In chlor-anæmia, Marshall Hall used, grain ij each of sulph. ferri and aloes, taken daily at dinner-time ; also in the anæmia from leucorrhœa, combined with pil hydrarg, or pil. rhei co ; the digestive organs and general health improved, and the discharge diminished. In cardialgia, gastrodynia and ulceration of the stomach from anæmia Dr. Abercrombie used it as above combined, with aloes and cinnamon. In splenic anæmia with enlargement of the spleen, Cruvelhier regarded this salt of iron as specific, in doses of five to ten grains daily, in combination with purgatives. Shoolbred used a mixture of jalap, rhubarb, columbæ, and potass bitart, ʒj each, with ferri sulphate, ʒj, each given so as to open the bowels three or four times daily in malarial anæmia with enlargement of the spleen, and Waring has seen the best effects from it.

In malarial anæmia, Marc, in 1808, and Corvisart found it successful in cases where quinine failed. It even cured intermittents in anæmic subjects, and those with evident enlargement of the spleen.

The wine of iron is a popular remedy in the anæmia of young women of relaxed phlegmatic habits, and is occasionally of great benefit. The pil. aloes c. myrrh. may advantageously be given at the same time, and generous living and outdoor exercise enjoined.

Hops are chiefly resorted to where a gentle tonic and sedative effect is desired. Anæmic children with puffy cheeks, tumid belly, and a general languor of the mental and bodily functions are found to recover activity, strengthen and color under their use, and the skin, if defaced by eruption, assumed a natural color and texture. In atonic dyspepsia and anæmia from indigestion, in nervous languor and debility, they should be taken just before meals.

The peroxide of hydrogen increases the activity of iron.

Phosphate of lime is servicable whenever there is defective nutrition or deficient cell growth, from that of the blood globules up to ovarian vesicles. In defective cell growth and malnutrition, the quantity of the phosphate in the urine is apt to be eventually great, and means to check this loss; must be used in addition to giving the salt. It is of great use in the anæmia of young and rapidly growing persons, and women weakened by rapid child bearing, prolonged suckling, or excessive menstruation. It is also useful in the anæmia from chronic diarrhœa, leucorrhœa, bronchitis, and large abscesses; it effects both general and local improvement. Women dwelling in towns are apt to have a deficiency of this salt, according to Ringer, and are improved by its administration. An increased quantity also finds its way into the lime lacking milk of a suckling mother, and thus benefits both nurse and child. Persons in broken health from prolonged town life, or over-work, who are languid, hipped, and incapable of much exertion, are often much benefited by it. It may often be combined with phosphate of iron.

Manganese is regarded as tonic and alternative, and closely resembles iron in its action. Mr. Hannon found it to act as beneficially and rapidly as iron in simple anæmia, and to be more permanent; and as it is more rapidly assimilated it need not be given as long. The sulphate and carbonate of the protoxide are the most used salts, in doses of three to ten or twenty grains three times a day. It may be given in all cases where iron disagrees. It exerts a specific action on the liver, and gall bladder, and may be given in anæmia, with torpid liver in place of mercurials. It is also a remedy in certain irritable conditions of the stomach and forms of dyspepsia. Drs. Leared and Rogers give evidence of its value in gastric irritation in doses of ten to fifteen grains three times a day. It may be combined with the sulphate of iron.

Oxygen is strongly recommended by Trousseau when iron fails.

Malt is a popular remedy for the anæmia of nurses when the appetite is absent.

Alkalies in moderate doses, as has been experimentally proven, *excite a more abundant secretion of gastric juice*, and hence promote digestion and nutrition.

ART. IV.—*Venereal Ulcer, or Chancroid*, by FESSENDEN N. OTIS, M.D., of New York.

This is an acute, contagious ulceration, recognized as resulting from venereal contact. It is a purely local disease, possessing characteristics which entitle it to be considered, *par excellence*, the highest type of acute ulcerative action. In the great majority of cases it is the result of inoculation of the purulent secretion of an already existing ulcer of a similar character. Applied to sound integument or mucous membrane, it is capable, under favoring circumstances, of effecting a solution of continuity of the part, and of communicating to it at once its destructive and contagious properties. More commonly and readily it is established upon an abrasion of the skin or mucous membrane produced *in coitu*. On application of the purulent secretion of the *venereal ulcer* to an abrasion, either on the person already affected or one previously free from the disease, congestion, inflammation, suppuration, rapid destruction of tissue follow in quick succession. The ulcer thus formed presents all the characteristics of rapid destructive action; it is sharply cut, with ragged edges and pultaceous floor, and secretes puss freely. Chiefly characterized by its contagious property, the venereal ulcer is seldom single, several distinct lesions usually presenting at the same time. Occurring under circumstances of good general health, cleanliness, and temperate living, its progress is usually self-limited: gradually increasing from two to five weeks, it acquires a diameter of from six to twelve lines; the loss of tissue is then slowly restored, and a scar like that of an ordinary burn is left. From first to last its secretion is inoculable, and the sore is capable of being reproduced upon the person bearing it. When reproduced by artificial inoculation it loses its contagious power in

each successive inoculation until the secretion from it is no longer inoculable. It will thus be seen that the tendency of the disease, under favoring conditions, is always toward recovery. When acquired, however, under unfavorable conditions, such as a depraved constitution, irregular life, filth, and alcoholic excess, the chancroid assumes its most vicious type. Characterized now by a high grade of inflammatory action and an increased destructiveness, it not unfrequently takes a peculiar action which is termed phagedenic (from Greek word, to "eat"), through which, in a few days or even hours, important loss of tissue ensues, not rarely resulting in irretrievable mutilation, and possibly in loss of life. In other rarer instances the *chancroid* takes on a sluggish but persistent form known as the *serpiginous*, with a gradual irregular loss of tissue, involving the integument only, but continuing often for years in spite of every means and mode of treatment. The extension of the *chancroid*, usually by continuous tissue, not unfrequently takes place through the entrance of the contagious secretion into a lymphatic vessel (opened by chancroidal ulceration), and its passage along that vessel to the adjacent lymphatic gland. This accident may occur at any period during the continuance of the chancroid. The gland in this manner affected (usually in the groin, and known as the chancroidal bubo) becomes tender and swollen. Evidences that the peculiar destructive chancroidal action is going on within the substance of the gland become daily more distinct, until in a few days an abscess is formed. On the discharge of the purulent contents of this abscess, they are found to possess the peculiar properties of pus from the original ulcer, and the open bubonic abscess takes on the appearances and other characteristics of the typical chancroid.

The *venereal ulcer*, or *chancroid*, in its early stages, is promptly amenable to judicious remedial measures. The application of any caustic, of sufficient power to destroy completely all the tissue which has been implicated in the diseased action, suffices to change the contagious venereal ulcer to a simple sore, when it

goes on to recovery without other treatment than such simple sores require. The conditions which determine the severer forms of the venereal ulcer are recognized, as already stated. It is also found that the particular lesion which may present partakes in great degree of the activity, greater or less, which characterized the lesion from which it was derived, so that every grade from the simple excoriation to the sharply-defined and most active ulcer may be met. Hence, all do not require the prompt and energetic course necessary to arrest and cure the typical chancroid. In the milder varieties the judicious application of carbolic acid, iodiform, sulphate of iron, and other, even simpler, antiseptic, sedative, and astringent agents, may suffice to bring about an arrest and cure. In the lightest forms it is often difficult to distinguish from non-venereal pustules which result from acrid sebaceous secretions, or from connection with a female suffering from an acute form of simple leucorrhœa.

In regard to its history, the venereal ulcer or chancroid is conceded to be of ancient origin, even to antedate the advent of *syphilis*. It has various synonyms—viz: “pseudo-syphilis,” “soft chancre,” “non-infecting chancre,” “chancroid,” etc. By the latter term, *chancroid*, it is almost universally known at the present day. It was distinctly recognized and described by the ancients as a disease known from the earliest times. Notwithstanding this, shortly after the recognized appearance of syphilis in Europe in 1494, it became confounded with that disease. Its purely local character was lost sight of, and it was subjected to constitutional treatment as a form of syphilis. Its chief characteristics, however, always most marked, were never quite lost sight of. Evincing its destructive property *at once* on inoculation of its secretion upon healthy tissue, and commonly associated with inflammatory enlargement and suppuration of contiguous lymphatic glands, it was thus directly opposed to the sluggish course of the syphilitic local affection and its non-suppurating glandular concomitants. Yet it was so often found associated with and followed by the constitutional manifestations of syphilis

that its distinctive significance was doubted ; and when, after a time, the well-known acute venereal ulcer was occasionally observed to exchange its soft edge and base for the indurated tissue known to characterize the early syphilitic lesion, the fallacious theory of *post hoc ergo propter hoc* prevailed, and thus the confusion of the two distinct diseases became complete. From this time *all* the contagious venereal diseases, gonorrhœa, chancroid, and syphilis, were accepted as practically identical, requiring the same constitutional treatment. It was found, however, after the habitual mercurialization of persons afflicted with soft sores or with gonorrhœas, for more than two hundred years, that constitutional syphilis did not necessarily follow the occurrence of the soft ulcer nor of a gonorrhœa, even when no treatment was resorted to, while the ulcer with indurated base and edge was invariably succeeded by the general manifestations of syphilis. John Hunter, in 1786, was the first to recognize publicly the value of the induration characteristic of the venereal sore which was followed by constitutional syphilis, thus making the first positive step toward identifying and restoring to the different venereal disorders their distinctive individuality. Hunter, however, misled by an experiment upon his own person, taught that while the local manifestations of the venereal diseases were different, their source of origin was identical, and that the peculiar form and nature which they assumed in any given case was dependent upon some peculiar condition or idiosyncrasy of the affected individual. In 1798, Benjamin Bell, of Edinburgh, claimed a simple origin for gonorrhœa, and in 1830, M. Ricord, of Paris, after a series of observations and elaborate experiments in inoculating the purulent fluid of gonorrhœas and of the soft and hard venereal lesions, demonstrated the purely simple, non-specific nature of gonorrhœa, thus completely and forever eliminating it from among the manifestations of syphilis. Ricord, however, notwithstanding his numerous and carefully observed inoculations, and while distinctly recognizing the local and ultimate differences between the hard or Hunterian chancre and the soft sore or chan-

croid, yet accepted and taught Hunter's view, that the difference between them was not one of origin, but of personal condition or idiosyncrasy. It was reserved for M. Bassereau, of Paris (a pupil of M. Ricord), in 1852, to demonstrate the fact that in the disease then known as syphilis, comprising the soft local venereal ulcer and the indurated infecting venereal sore, with its consequences, two separate diseases existed. Upon the confrontation (*i. e.*, personal comparison) of a very large number of persons affected by venereal disease with those from whom their disease had been acquired, Bassereau found that in every person presenting a venereal ulcer, accompanied by well-pronounced evidence of constitutional syphilis, the person from whom the disease had been acquired was also, or had recently been, the subject of ulcers which were followed by constitutional syphilis, and that in no case was syphilis ascertained to originate from a person bearing the local venereal ulcer alone. Similar observations by confrontation were made by Messrs. Dron, Clerc, Diday, Rollet, and Fournier in 1856, and in 1857 by Messrs. Fournier and Caby, under the supervision of M. Ricord, with the result of proving that in all cases of chancroid the type of ulcer remained unchanged in passing from one individual to another. Nevertheless, M. Clerc, while accepting and confirming the observations above alluded to, claimed to have produced the typical chancroid by inoculation of the secretion of an infecting (syphilitic) chancre upon a person previously the subject of syphilis, and thus to have demonstrated that the chancroid was the product of the inoculation of the syphilitic virus upon persons then or previously affected with syphilis. Clerc also claimed that while, as a rule, the chancroid, thus originated, usually transmitted only chancroid, yet on being inoculated upon a healthy person it was capable of reverting to its original type, and hence of communicating syphilis; thus asserting the unity of origin of the two diseases; and those holding this view were known as *unicists*. Rollet and others held, on the contrary, that not only were chancroid and chancre (the initial lesion of syphilis) separate and distinct dis-

eases, but they owed their origin to separate and distinct poisons; and thus the school of so-called *dualists* was initiated. The position of M. Clerc was supported by the observations of Henry Lee, of London, the late Prof. Boeck of Christiana, Melchoir Robert, and others, who succeeded in producing the typical chancroid upon persons syphilitic and non-syphilitic, by inoculations of pus from an irritated syphilitic chancre. It was required that the degree of irritation in all cases should be sufficient to induce a free *purulent* secretion. Sores produced in this manner were inoculated in successive generations upon persons quite free from syphilitic taint, and behaved in all respects like the ordinary venereal chancroid. It was, however, found that when the super-induced irritation subsided, and the secretion was no longer purulent, it was no longer auto-inoculable; and hence it became evident that the property of inoculability was consequent upon a peculiar action resulting from the persistent irritation of an already-diseased surface. The fact that the chancroid could be established upon persons entirely free from syphilitic taint, and not be followed by syphilis, demonstrated that its existence was not necessarily dependent upon the syphilitic principle. Experiment swere then made by Pick, Bidencap, Koebner, Boeck, and others to ascertain the effect of inoculations of pus from simple lesions on persons free from syphilitic taint. The result showed that the effect in non-syphilitic persons which are of slight virulence, the secretions of which are not inoculable, can be made to produce an inoculable secretion by the application of an irritant. Kaposi states that in his experiments the pus taken from acne and from scabies in non-syphilitic individuals has produced pustules, the pus from which was inoculable in generations on the bearer as well as on other non-syphilitic persons. In 1866, Dr. Edward Wigglesworth, Jr., of Boston (reported by Dr. Bumstead in his paper *On the Unity and Duality of Venereal Sores*, read before the Centennial Medical Congress at Philadelphia), while studying under Prof. Zeisl, of Vienna, and being entirely free from any suspicion of venereal taint, but in somewhat im-

paired general health, inoculated his own arm with pus taken from a simple pustule of acne. This produced a similar pustule at each of the three points of inoculation. Pus from these being again inoculated, a third generation was established. Nine distinct sores, the result of the inoculations, were present at the same time, and, pursuing a similar course, finally healed, leaving as many distinct cicatrices, indicative of loss of tissue through the process of ulceration. This experiment during its progress was under the personal observation of Prof. Zeissl, and was repeatedly exhibited to his class as demonstrating the contagious and destructive properties of non-specific pus under certain circumstances unconnected with syphilis or with any venereal influence. Observations (personal) have shown that the mucopurulent secretion from non-specific nasal catarrh will sometimes produce excoriations of sound cuticle, and that contact with secretions from non-specific leucorrhæas will sometimes promptly cause pustular eruptions (*Herpes*) of the preputial mucous membrane of the male; and these more or less rapid in development and progress according to the degree of activity of the inoculating secretion—in some instances so simple that they are scarcely more than sero-purulent vesicles, and in other cases observed so vicious that in appearance they do not differ at all from the typical chançroid, the secretion being also *auto-inculable*, as proven by the occasional occurrence of similar lesions upon opposing surfaces.

Mr. John Morgan, of Dublin, in his work on venereal diseases (1873), cites numerous instances in which he has observed the typical chançroid to result from inoculation of the mucopurulent secretions of leucorrhœas in syphilitic women upon other women, also subjects of syphilis. Vidal cites a case where pus taken from a pustule of simple ecthyma, in a patient suffering from typhoid fever, was promptly inoculable on the patient, but failed when inoculated upon a healthy person. It is therefore shown that the quality of pus is variable, according to the circumstances under which it is produced, and the condition of the person upon whom

it may be inoculated—that a low condition of the general system from any cause predisposes the healthy tissues to take on ulcerative action and to elevate the accompanying purulent secretion to a point of contagiousness. Lesions, especially of mucous membrane of the human genital apparatus of both male and female, are common under the circumstances peculiar to the venereal act. Inflammations of mucus membrane in the same locality are frequent, and characterized by muco-purulent secretions, often profuse and acrid ; and this, too, when the subjects of them are in good general health, and living under the most favorable hygienic conditions. When, therefore, it comes to be considered that the most frequent habitat of the venereal ulcer or chancroid is in localities where venereal excess and every kind of debauchery abound, when to this are often added the potent elements of syphilis and scrofula, hereditary and acquired, filth, and irregular living, and when (as has been shown by Fournier and others) chancroid is found by far the most frequent in proportion to syphilis among the debased and dissolute, the conclusion is inevitable that chancroid is, and of necessity must be, a self-engendered disease, possessing no specific virus, but acquiring its power for destruction and contagion through the stimulation and vitiation of benign natural processes.

The venereal ulcer or chancroid acquires its chief importance from its liability to be mistaken for, and treated as, the initial lesion of syphilis ; and the more so as it is often through the lesion established by the destructive agency of the chancroid that the syphilitic principle or disease-germ is permitted entrance into the system. The distinction between the two lesions at the outset is often impossible. The active characteristic of the chancroid is recognized as a necrosis—that of the syphilitic lesion one of growth or proliferation. The surface of a sore, then, may be the field of chancroidal action, while the living tissue beneath may be at the same time a centre of proliferation of syphilitic disease-germs, which are constantly gaining access to the general circulation through the contiguous lymphatic vessels. These germs

may be originally deposited upon a simple abrasion or one already the seat of chancroidal action, or may be subsequently inoculated through the breach of tissue made by the chancroid. If the former, the imposition of the secretion of a chancroid upon the same point, if the disease-germs have been freshly deposited, might cause their destruction, and thus leave only the chancroidal element; but once the syphilitic principle has extended below the surface and has entered a lymphatic vessel (see article on Syphilis), it has gone beyond the sphere of action of the chancroid. The only method of determining whether a given chancroid or other lesion, occurring after a suspicious venereal contact, is or is not to be followed by constitutional syphilis, is to reserve a final decision for a full month subsequent to the exposure. This course should be pursued even though during the interval the suspected lesion, possessing all the characteristics of the typical chancroid, should have fully healed. If during or after the month no hardening of the tissues composing the edge and base of the sore, nor, if healed, of the cicatrix, nor any enlargement of the adjacent lymphatic glands, can be discovered, then, and not until then, can the patient be assured that he has had an uncomplicated chancroid, and that no syphilis will follow. Those milder forms of ulcerative action which are just within the line of distinction between the simple so-called herpes and the chancroid are the most frequent to exhibit subsequent evidences of syphilitic infection. By reason of their inactivity they are less likely to destroy any of the germs of syphilis which may come in contact with their surface.

The frequent association of chancroid with syphilis will never lead to mistaken identity if it is constantly borne in mind that syphilis is always, in all its manifestations, a process of growth, of proliferation, of *exaggerated life*. The most scientific and critical examination of the products of syphilis, from the *initial lesion* to the *gummy tumor*, has never been able to detect any abnormal material—nothing but excessive accumulations of tissue-building cells. Chancroid, on the other hand, from its inception to its

cicatrization, is a process of necrosis—literally, *death* of tissue. So that *syphilis* and *chancroid* are always and only in relation to each other as *life* to *death*—each the highest type of its own peculiar action.

ART. V.—*A Case of Orbital Tumor Removed by Operation.* By THOMAS R. POOLEY, M.D., New York. Read in the Surgical Section of the New York Academy of Medicine.

MR. PRESIDENT AND GENTLEMEN: At the last meeting of this section, I intended to speak quite informally of the case which I shall present to-night, but the time did not permit. At the request of the President, I deferred it until this evening, when it was made the special order of business. I do not know whether I shall be able to entertain you for the time which is usually given to the reading of a paper, for it is not my purpose to consider the subject of orbital tumors at length, but simple to present my case with some remarks upon it.

Mary Butler, æt. 55; single; by occupation a seamstress; was admitted to my ward in Charity Hospital, May 1, 1877. The antecedent history of case which was taken by my house surgeon, Dr. Fridenberg, is as follows: Father died of cholera; mother of phthisis, at the age of forty-two years; two brothers and a sister of the patient have also died of the same disease, aged respectively, twenty-six, forty-four, and twenty-seven. Patient herself was always remarkably healthy and was never confined to bed on account of illness. Has suffered a good deal from hemicrania, which she describes as “a sharp lancinating pain, going through the brain.” These attacks usually occur with inclement weather. Patient first had her attention drawn to the present eye trouble about eighteen months ago, when she experienced sharp pains darting down the left temple, and at the same time a sensation of icy coldness at the top of the head. She further remarked that her left eye-ball seemed to be gradually growing larger (or protruding), and she frequently had subjective symptoms of light, such

as a narrow circle of light, which appeared to be in a state of constant revolution on its own axis ; like a wheel, this would last for a minute or so, and then disappear suddenly. Shortly after her sight began to diminish, all objects being seen as through a haze. The left eye continued not only to swell, as she thought, but to protrude through the orbital cavity ; this continued for almost a year without, however, at any time causing any pain whatever. Six months ago the patient first noticed that there was a small lump situated upon the upper part of the eye-ball, under the lid, which gradually increased in size from day to day, causing a feeling of stiffness and tightness in the eye itself. From the time the patient first noticed this tumor she says that the eye became very dry, and she remarked that no tears were secreted from that eye, nor was there any secretion from the left nostril. During the first three months, however, the lachrymal secretion became re-established in the left eye, and she is under the impression that the tumor decreased in size. The eye-ball itself, however, became more and more prominent. Upon admission to the hospital, the patient was in a debilitated condition, and very much emaciated. She says that she has been losing flesh very rapidly during the last year. I made a careful examination of her eye at this time, and the following notes were written in the case book of the hospital : There is a very high degree of exophthalmos of the left eye, amounting to about 3'', the direction of the displacement being downward and outward. When the upper lid is retracted, a tumor can be seen lying on the sclera, under the conjunctiva, having a conical shape, the apex being rounded off. It is situated about 2 or 3'', from the sclero-corneal margin, and moves freely upon the globe without imparting any movement to it. By palpation, a softish tumor can be everywhere felt filling the upper part of the orbit. The eyelids can with difficulty be made to cover the globe. The following sketches, made for me by Dr. Fridenberg, show the appearance of the eye at this time, when the eyes were open and with the lids closed. The mobility of the eye was restricted in every direction, but mostly outward and

downward; the pupil was about normal in size, but sluggish; the field of vision entire, and tension normal, and the patient could count fingers at ten feet.

The refractive media were perfectly clear; atropine was instilled, and when the pupil was widely dilated, a careful examination with the ophthalmoscope was made. I found the third stage of chalked disc—a white disc; narrow, retinal arteries; moderately sized retinal veins, and a uniform, orange-colored back-ground. A most thorough exploration of every part of the fundus failed to reveal any intra-ocular growth; great care was exerted in this part of the examination, because I was under the suspicion that the orbital tumor might be secondary to an intra-ocular tumor.

I proposed to the patient to remove the tumor from the eye without enucleating the eye-ball, to which she assented, but when I went over to the hospital the following day to perform the operation she had gone. I saw nothing more of the case until the following December, when I was again on duty in the hospital. She was again admitted to the hospital. There had been, since she left the hospital, a steady progression of the exophthalmos, with severe and incessant pain, until a few days before she entered, when the eye burst, with much relief to her sufferings.

Her eye now presented a truly hideous appearance; the exophthalmos had increased to 4 or 5'', observing the same direction. The cornea had entirely sloughed; the episcleral tumor was of about the same size; the movements of the eye much more limited. The whole anterior part of the eye showed a protruding mass of a deep livid red, and everywhere covered by conjunctiva. There was no fungus growth extending from the eye. The lids constricted the tumor so as to strangulate it, and make a deep sulcus. On palpation, the growth seems to fill the entire orbit. Pulse, 84; no fever, and apparently no constitutional disturbance; no pain.

She was now very willing to be operated upon, and accordingly, I undertook the removal of the growth the same day. There being no object now in preserving the eye-ball—for all

vision was gone—it was removed as a first step of the operation. This was most easily accomplished, and it was found not to be in any way connected with the orbital tumor, that part of the tumor which was situated upon the upper part of the sclerotic was merely an extension of the orbit growth in this direction. After the removal of the eye, the operation was continued by dissecting the orbital tumor from the conjunctival sac, which was done by a pair of scissors, conducting the dissection in such a way that the finger served as a guide; this was comparatively easy, as the tumor had not very firm adhesions. It filled the upper part of the orbit, being in close contact with its roof, but also extended into the other parts of the cavity. The tumor became thinner toward the apex of the orbit, and was firmly attached by a pedicle. It was removed from this attachment by dividing it with a larger pair of scissors, as is done in dividing the optic nerve in enucleation of the eye-ball. The operation was but little embarrassed by hemorrhage, and was comparatively easy. After the tumor had been removed, the dimensions of the cavity of the orbit seemed to have been considerably enlarged by the pressure exerted by its growth. A pressure bandage was applied and the patient put to bed. There was considerable reaction following the operation, and suppuration of the orbital contents ensued, but this soon subsided under the persistent use of hot applications and pressure; so that when I left the hospital the patient was quite well, and the appearance now is like that usually seen after enucleation of the globe. So far as I know, there has not been any return of the growth as yet; but as the patient has been discharged from the hospital, and I have not seen her since last February, there may have been a relapse. I sent both the orbital tumor and the eye-ball to Dr. Heitzman's laboratory for examination. The examination of the specimens was made by Dr. B. Bettman, of Cincinnati, who has very kindly furnished me with a description of them, and also prepared the microscopical specimens for me*.

NOTE.—Since reading the above I have seen the patient. There is no return of the growth in the orbit, but she has some symptoms of cerebral mischief—nausea and headache.

The specimen has been examined in Dr. C. Heitzman's laboratory, by Dr. B. Bettman, of Cincinnati, and found to be as follows :

A meridinal section through the eye-ball shows a new growth within the choroid, occupying mainly its internal part, spreading forward toward the ulcerated cornea, and backward toward the optic nerve, without being in distinct connection with the optic papilla. A narrow connection can be traced only on the internal part of the lamina cribrosa with the tumor. There is no trace of iris or lens. The tumor is bounded by the sclera all round, varying in the transverse diameter from one to four millimetres in width. The central part of the eye cavity is occupied by the funnel-shaped detached retina and vitreous body. A connection between the morbid growth and the vitreous can be seen only in the anterior part of the eye-ball, where the tumor lies open in the middle space of the sloughed cornea. The tumor, by microscopic examination, proved to be a white myo sarcoma, traversed by strings showing the structure of a spindle cell sarcoma. The main mass is built up by a delicate net-work of fibers, in the meshes of which there are imbedded globular elements, with coarsely, granular protoplasm and very shining, coarsely, granular nuclei. Sections from the anterior part of the ball, show a penetration of the tumor into the vitreous body, which itself has undergone change, leading to the formation of sarcomatous tissue, and in this situation is profusely vascularized. The tumor here also invades the sclerotic, between the fibers of which are spaces filled with sarcomatous elements. The extra-ocular tumor of the size of a large, elongated pigeon's egg is surrounded by a tough, connective tissue capsule; its longitudinal section has a marbled appearance of pale and brown spots. The microscopic examination shows that this tumor is a myo sarcoma, analogous in its structure to that of the intra-ocular tumor, but provided with many clusters of a dark brown, granular pigment. Therefore, it must be designated as a melanotic myo sarcoma.

There are several points of interest in this case which are well

worth considering. First, as to the diagnosis. The direction of the exophthalmos, which was in the direction of the optic axis, outward and downward, inclined me to think that the tumor was connected with the optic nerve, such as have been described by Graefe, Goldzeiher, and, more lately by Knapp and Gruening, in this country; but in their tumors the mobility of the eye is not interfered with, and, moreover, they usually develop without the occurrence of pain and subjective symptoms of light, both of which were marked symptoms in my case. Again, in a tumor of the optic nerve the growth is developed in the sheath of the nerve, and causes a uniform enlargement, which quite surrounds it; is very deep-seated in the orbit; fills its apex uniformly, and is difficult of access to the touch; while in the case we are considering, the tumor mainly occupied the upper part of the orbit; was easily felt by palpation, and a part of it could be seen lying on the sclerotic.

An operation to remove the tumor without sacrificing the eye would have been comparatively easy. This has been done by both Drs. Knapp and Gruening, in tumors of the optic nerve itself, which involved cutting the nerve off at its insertion in the globe, and in the apex of the orbit. To have removed this tumor as was demonstrated by the ease with which it was done after the eye had been removed, would have been far more readily accomplished, and, moreover, as it would not have involved the necessity of section of the optic nerve, some sight might have been preserved. The only accident which might happen in the operation, would be dividing some of the muscles, and this might even have been avoided.

That the tumor was not connected with the optic nerve, was very well demonstrated in removing the eye-ball, for the nerve was pushed aside by the tumor, and had a distinct bend in it where it had been subjected to pressure in the orbit. But, by far, the most interesting feature of the case to me is the almost indubitable clinical evidence that the tumor grew from the orbit into the eye, although the reverse process is more frequent, that is

the intra-ocular tumor breaks through the eye-ball and extends into the orbit. I have never before encountered an instance in which the tumor found access to the cavity of the eye in this manner, although such a possibility is admitted by writers on the subject. Still, I must believe this to be the explanation in this instance. If there was an intra-ocular tumor when I first examined the patient, I must admit that I was unable to discover it by the most careful search, while the ophthalmoscopic evidence which is presented by the optic disc when the nerve is submitted to pressure by an orbital growth were present. Again in the second stage of development of a tumor within the eye, inflammatory symptoms always ensue, with loss of transparency of the refractive media and glaucomatous hardening of the globe. All of these symptoms were entirely wanting. An examination of the globe after its removal showed no perforation of the sclerotic at any point, which is still quite apparent by looking at the two halves of the eye in the specimens. The sloughing of the cornea undoubtedly occurred from its exposure, the protrusion of the eye becoming so extreme that the lids could not cover it. It seems to me highly probable that the tumor found its way into the eye through the ulcerated cornea, although this is by no means clearly made out by the microscopical examination, or the invasion may have happened by extension along the sheath of the optic nerve, and even by penetrating the fibers of the sclerotic itself. Which ever was the route the growth took in its passage from the orbit into the eye, must, for the present, remain purely hypothetical, and can only be settled by a critical microscopical study of the entire eye, which will be made in time and then I will report the result to the section.

It is worthy of mention as a strange occurrence that the orbital tumor was a melano sarcoma, while the intra-ocular one was unpigmented.

Of course the result of the microscopic examination makes the prognosis very bad, for we must confidently expect the growth to return either in the orbit, or by metastasis in some other organ. Although I was careful to remove it as close to the apex of the

- orbit as possible, some of the growth must have been left behind. In conclusion, I would raise a question which I should be glad to hear discussed, whether there is a predisposition to the formation of malignant tumors in those subjects who have an hereditary tendency to phthisis, which is suggested by the history of this patient, whose mother, two brothers, and one sister died of the disease.
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ART. VI.—*The Demerits of Ranke's Thymol Dressing for Wounds*, by ROBERT F. WEIR, M. D., Surgeon to the New York and Roosevelt Hospitals.

Recently thymol has again been brought to the attention of the profession as an antiseptic, having greater advantage than carbolic acid, by Ranke, Volkmann's assistant, at Halle, Germany. Its reputed superiority consists in that it is more powerfully antiseptic, 1 part to a 1,000 of water preventing decomposition; and that it is less irritating, not only to the hands of the surgeon but also to the tissues exposed by an opening or incision. By reason of the latter quality, the secretion of the wound is lessened, the reapplication of the dressing is not so frequently required, and thus it may be said to be cheaper in the end than the carbolic acid dressing, though in itself thymol is very much more costly.

Ranke, in his essay on the subject, *Samlung Klin. Vorträge*, No. 128, presents, in detail, an experience with some fifty-nine cases of variable severity, with the most encouraging results; these consisted of two compound fractures, six resections, one osteotomy, five amputations of the mamma, two joint wounds, and twenty-eight minor operations, etc.

The preparation of the new antiseptic (which derives its name from the oil of thyme, whence it was first extracted, and should, therefore, be pronounced with the *h* silent) recommended by him was, for the spray, instruments, hands, sponges, etc., of the strength of one part of thymol, ten parts of alcohol, twenty parts of glycerine, and one thousand parts of water. The alcohol and glycerine are necessary to make the solution complete.

In manufacturing the gauze, which is used in the same way as in Lester's method, the loosely meshed cotton cloth is impregnated with a mixture of sixteen parts of thymol, fifty parts of resin, five hundred parts of spermaceti to one thousand parts of gauze. The carbolized cat-gut ligatures are still used by Ranke, as nothing has yet been found to equal such. The only other difference is the abandonment of the silk protecture over the line of the wound, as, from the unirritating nature of the thymol, just alluded to, it is not needed.

Such is the method which has now been quite extensively tried in Germany and in England; in the latter country particularly by Spencer Wells, in connection with ovariectomy.

The experience that has been obtained during the past two months in the New York and Roosevelt Hospitals, under my own observation and that of my colleagues, has not convinced us that it is as trustworthy as the original Lester dressing of carbolic acid.

The thymol dressing has now been tested in twenty-five cases, as follows:

Amputations (thigh and leg), 5; compound fractures (thigh and leg), 3; lacerated wounds, (leg and foot), 6; abscesses, 3; removal of bone for necrosis, 3; lumbo-colotomy, 1; amputation fingers, 3; removal tumor, 1.

With the result of 11 successes, and 14 failures. By failure is meant that an aseptic condition was not preserved. The explanation given for such a failure, when first resorting to Lister's method *—*i. e.*, a too limited experience in its application—does not hold in connection with Ranke's dressing, for the house staff were thoroughly trained in its use, and every detail was carefully carried out. The failures were not only characterized by the usual appearance of odor, etc., but even in the successful cases, that is, where the wounds were progressing satisfactorily it was often noticed that there was greater elevation of the temperature

* New York Medical Journal, December, 1877; January, 1878.

and more frequent appearance of acute œdema than is met with in the carbolized dressings.

The mackintosh used in lieu of the gutta percha tissue or parchment paper, suggested by Ranke, suffered from the action of the thymol, and soon became unfit for use, and oftentimes a greenish color was imparted to the skin next the wound.

A further test would have been sought for before publication, but these results have been so decidedly confirmed by the reports received this week from the surgeons assembled at the recent meeting of the Surgical Congress, at Berlin, that it was not deemed worth while to delay further in order to present an increased number of cases. In the congress, held in April of this year, Dr. Küster,* of Berlin ; Olshausen, of Halle ; Schede and Langenbeck, Berlin, spoke of the uncertain results obtained by thymol. Bardeleben, (Berlin), objected to it, not only because it did not possess the antiseptic qualities of the five per cent. carbolic acid and solution, but also because the sweetish odor of the thymol produced headache and attracted swarms of flies.

Aside from these main considerations, it is to be regretted on account of the surgeon himself, that thymol is not likely to replace carbolic acid, for the stained nails and roughened skin are the necessary concomitants of the use of Lister's Dressing, only mitigated slightly, as I have found, by washing the hands freely with the juniper-tar soap.

Perhaps the yet needed carvol (from carroway seed) may prove the coming antiseptic.

*London Medical Record, May 15, 1878.

ORIGINAL LECTURES.

ART. VII.—*Lectures on Insanity.* By DANIEL H. KITCHEN, M.D., late Chief of Staff of the Hospitals on Blackwell's Island, New York. Delivered at Charity Hospital.

LECTURE IV.—DEMENTIA, IMBECILITY, IDIOCY, AND CRE-
TINISM.

[Continued from page 427, Vol. II.]

When we examined the forms of insanity as far as we have gone, you will remember that I constantly adhered to the first (progressive) classification. You will also remember the description of the mental states shared a decline, steady and progressive. When this decline arrives at a point of greater or less abolishment of the supreme cerebral functions, it also arrives at the point of *dementia*. To give an accurate description or idea of this state and stage of insanity, let us detail a little more this definition. It consists of weakness of: first, the emotional center of reflex action resulting in feebleness of affection or the affective life; second, intellectual center of reflex action resulting in feebleness of developing ideas and of reasoning upon impressions; third, the reflex active center of volition resulting in partial or complete loss of the dominant faculty of man, the power of will.

During the stages of mental depression (*melancholia*), and exaltation (*mania*), there was a perversion of receptivity of impression, acting primarily upon the emotional faculties, but through the physiological laws of transmission of impressions to the ideal and volitional faculties, they became also (secondarily) affected and perverted, but when emotions were corrected the intellect and will would return. Now, in *dementia*, the emotional centres are blunted, the ideal and intellectual faculties exhausted, and the power of the will sunk into oblivion, all caused by the previous strain brought to bear upon them during the course of insanity, through the stages of depression and exaltation, and the normal action of these centers can no more return. They are in

a state of functional progressive atrophy, leading to their complete paralysis and ultimate death.

But you will ask, do we not find this state to exist also in the idiot, the imbecile, and the cretin? This leads us to the diagnosis of dementia from these three forms.

First—From Imbecility. We must state, as a *prima facie* circumstance, that dementia is mental weakness resulting from disease, and as a sequence to previously existing aberrations, while imbecility is not a disease, but a *brain defect from birth*. Now, that defect exists in the cerebral functions, and they can only act to the extent of the little good there is in them, consequently there is a sort of equilibrium of all mental manifestations in ratio to the force with which the organs thereto are endowed. In dementia, on the other hand, such an equilibrium does *not* exist, as each center of the sensorium occasionally exhibits unexpected isolated activities. Further, an imbecile is amenable to a certain degree of mental education. These are the main distinctions between the forms, and out of them the minor ones are easily conjectured.

Second—From Idiocy. The same remarks made on imbecility are true here. It is only a question of degree. Here, too, there is a congenital defect of mental power, but that defect borders on complete want of force. An imbecile does things “foolishly,” but to the extent of his mental development “logically.” Memory is much better in the imbecile than in the idiot, while the former, understanding the *meaning* of numbers and can be taught to count, there exists great difficulty in the latter to do so. Hence, it arises that the first is more tractable than the latter, and more impressible when taught.

Third—From the cretin, the demented, the imbecile, and the idiot distinguish themselves mainly by no arrest of all further mental development after birth, while the former, such as he is, so he remains. The more a cretin advances in life the more his idiocy is marked, not like an imbecile or a true idiot, picking up here and there grains for their mental treasury, for cretins have none.

With these few characteristic diagnostic landmarks, let us resume the order of our subject : dementia, and, first, its symptoms.

This state of insanity being an exhaustion of cerebral functions we must necessarily find this exhaustion to be either partial or complete, in the latter case evincing complete annihilation of mental force ; therefore, the course is a graded one, and the symptoms accordingly more or less decided. Dr. Tuke goes so far as to make three distinct divisions, which I conceive difficult to analyze, so as to be able to say where they begin or end. The main symptoms are : that before all, the incongruity of mental action, as noted in the stage of mania, continues, but without its previous explosive manifestations of action and violence. The patient, therefore, looks bewildered and stupid. This bewilderment leads him sometimes to acts of violence, in fact, he occasionally becomes excited so as to make it difficult to decide whether the case is one of incoherent mania or of demented excitement. Time or observation will soon reveal the true state. As a rule these maniacal excitements are short, and the actor soon resumes his bearing of stupidity. We find it impossible for the patient to concentrate his energies on one subject for any length of time ; thoughts on it seem to wear out and wander. There is, hence, an inability to write a lengthy sentence correctly, or completely to finish any act requiring time. The action is like that of an engine with too small an amount of steam, it will stop half way.

The countenance of the patient reveals what he can do in the direction of mental action as soon as addressed. He or she may look quite indifferent before, but as soon as spoken to, betray their inability to bring together enough of affinitive ideas for an answer by their countenance looking puzzled, then weary, soon to fall back into the previous insignificant appearance. It is thus wise : *I try, I can't, I give it up.* In early dementia the patient has not yet assumed that want of observation of what is going on around him, and he makes attempts to respond to an impression, however blunt it may be, but the response is incoherent and

before execution of what was intended, the original intention is dropped or left half finished. To give an example: A demented woman, sitting in a corner on the floor, sees on the other side of the room an open window. This primary impression is received, the idea says (if only for the sake of contrariness) to go and shut it, she will follow, she gets up, walks toward the window, but, half-way, has already forgotten the original impression, emotion, and idea, and sits down in another corner. This loss of memory of things is, however, limited, strange to say, to things and acts occurring and conceived during their demented condition, as the great majority remember well what has passed during and before their state of depression or exaltation. This freak of memory is very characteristic of the demented, and shows that impressions made upon the yet active brain remained, but upon the exhausted and weakened cerebrum they gain no hold. It is like dropping bromine into a deep jar; before it reaches the bottom it is a vapor, and soon gone out of sight. It must not be thought, however, that the demented are motionless. The patient may occupy himself all day with something, but it is purposeless and exhibits the stamp of stupidity. Some carry objects from one part of the place to another and back again, others pick up all they can find from the floors, others again try door knobs from morning to night, or embellish themselves with flowers, or coins and decorations of various kinds, or have some other kind of strange propensity. Delapidated cases of monomania often continue their peculiarities, so that I have known a case who thought himself Jesus Christ (while a monomaniac), with all the airs a high priest could give himself; falling into a state of dementia, he continued to insist upon being Jesus Christ, but always with a meaningless, stupid laugh. Hence, hallucinations are not infrequent, but the patient does not act accordingly—in other words, does not follow up the idea. It would be useless here to begin to give you the various foolish things the demented pass their time with, some of which are enough to entice any one to laughter, for instance, to look at one watching continually a clock, and jumping up with a hurrah

every time the minute hands were on "XII," while another nurses a dressed-up pillow for a baby, or a third takes everything, dresses, carpets, dish cloths, necklaces, shoes, etc., to the bathtub and washes them. When further advanced in the state of dementia these unfortunates do not continue their activity, as stated in the foregoing examples. Now, they are silent or mutter only, nobody knows what. Generally, it is only in short sentences constantly repeated, or oaths, or filthy expressions, all without connection with anything or alluding to any one; that part is probably hardly known to the patient. In that state they often crouch in some corner, and will not move till forced to bed. They become very careless of their person, pass urine and fæces wherever they are, and into what they have on, dirty in every way and deed, and, when very far advanced, actually lead a life less active than a clam. I cannot forget one case who would give only a grunt, one and the same always, when spoken to, who had to be fed like a child with a spoon, and then told in a loud command to swallow, otherwise he would keep the food in his mouth till bed time; he had to be taken regularly to the water closet to attend to his necessities; he would not unbutton his clothes, all and everything had to be done for him, and when properly primed, the monosyllabic and unesthetic command to do the act had to be given in a thundering voice, or all the trouble would have been fruitless. The patient was full, fat, and forty, and not paralytic, neither was his inactivity obstinancy, it was dementia.

As to the physical symptoms, little can be said. Generally the patient's health is good. The digestive organs are in good condition and the appetite is excellent. Sleep is sound, prolonged, and refreshing, and the patient generally looks hardy, the face full, but rather paler than in health; in the early part of the stage, the conjunctiva is injected and the pupils are often dilated. Not all cases show this apparently good physical health. Either a lingering disease crawls upon them, or exhaustion from the past stages of insanity has told but too well on their constitution and

they waste away. Paralysis also accompanies at times the state of dementia. Muscular relaxation is almost constant in old cases, which accounts, perhaps, for the habit of crouching down in corners, so as to relieve the muscles from carrying the weight of the body.

Some authors speak of dementia as occasionally occurring as a *primary* disease. For my part I do not believe this, and think that if the case is duly followed up from its very beginning, a depressed and exalted state can be traced, even if they lasted but a very short time. All other cases will be found to have their root in a directly physical alteration of the brain, be it by a blow, contusion, effusion, abcess, softening, or anything else that may have a direct traumatic or otherwise physical influence upon the organism of the brain. It should not be forgotten that mental shocks, such as fright, fear, etc., can, through extraordinary action of the heart, produce a partial apoplexy of the brain, from which another organic disease may take its starting point, thus permitting symptoms of dementia to occur primarily, but resulting from the organic lesion inflicted upon the brain.

The duration of dementia is as a rule *chronic*. Of course, cases of mania with great physical prostration may pass into temporary dementia, when death will soon relieve the patient. But barring these instances the duration is long, cases being on record where insanity began in youth, dementia following soon, and the patient dying at eighty or ninety. The fact is, that when a maniac recovers his bodily health without amelioration of his mental aberration, it is looked upon as a sure case for dementia and many more years of life. Aside from taking injuries to the physical cerebral organism as a cause, we have no others except that dementia follows mania (including monomania), general paresis, and epilepsy. Only one, intemperance, may be said to produce dementia, and then it is doubtful whether dipsomania was not preceding it.

By what you have heard it is needless to tell you that the prognosis is almost always unfavorable. Some rare instances occur,

however, in every asylum or private practice where some other disease, generally a severe one, mostly contagious and eruptive fevers, zymotic affections or sometimes such of an epidemic character promote a cure. It has also happened, but rarely, that a demented patient takes, so to speak, a retrograde march in insanity, *i. e.* a sudden violent outbreak of exaltation taking place, and mania in its full force of vehemence snatches him or her from the claws of dementia, and, arousing the inactive brain to its functions, replaces a former *statu quo*, which, when cured, reinstates the patient among the mentally sane.

The post mortem examinations made in cases of dementia lead to the discovery of a great variety of *pathological changes*, no doubt referring to previous stages of insanity, but retained as an (so to speak) adopted child. The following are the most prominent in occurrence, and therefore more than others directly related to the state the patient died in.

The pia mater in a state of anæmia, effusion of serum in the pia mater, effusion and opacity of the arachoid, diminished weight of cerebrum in relation to cerebellum, diminished sp. gr. of the grey substance, grey matter pale, white matter firm, increased thickness of cranial bones. In most of the cases an atrophic state of the brain generally has been noticed, hence also more frequently anæmia than hyperæmia.

In regard to other organs than the brain, we find, figuratively speaking, the scars of diseases existing during an antecedent state of insanity.

Before leaving the subject of dementia, let us make a few remarks on a mental state so often found in the aged alone, and which cannot well be classified among the regular orders of insanity. I speak of *senile dementia*. This is slightly a misnomer, because it partakes more of mania than anything else, and has only received its name from the fact that it is attributed to the old age of the brain, which is supposed to be in a state of decline like the rest of the body. Old persons then, and particularly those who have gone through an active life and employed their cerebral

faculties, are subject to a mental derangement, generally brought about by some shock, a catastrophe in business, disappointment of a projected plan, etc., or after retiring from business, on account of the loss of the activity the brain was accustomed to, or else on the other hand by overburdening it with what it can no more carry, and lastly often called forth after slight attacks of apoplexy or paralysis.

The two great peculiarities of senile dementia are : 1. The loss of memory of recent events. 2. The contradictory states of enfeeblement and exaltation of cerebral functions. The patients are not depressed in spirits, on the contrary, generally joyous, communicative and excited. They have the propensities of a busy body, meddling in everything and wanting to demonstrate their wisdom about it. They are subject to wander about, but not like Paul Pry—"hope they don't intrude"—no, *they think they have the privilege* of giving advice or making suggestions, or when up to some change in their own household will borrow things right and left. They are usually vain and the women even act coquettishly, they imagine themselves well off, consider themselves handsome, think they are boss of everything, and are generally quite unmanageable, because they are easily thrown into a passion by disobedience or contradiction of their orders. Varieties of imbecile acts, too many to enumerate, are committed by them and their imagination often takes a most ludicrous direction. A peculiarity of senile insanity is that it is not preceded by melancholia or mental depression. The pathology of this disease seems to be a want of general tone of the whole system, the brain as well. The blood vessels seem to be relaxed and nutrition of all tissues defective. As the brain is the most vascular part of the organism, want of proper nutrition of the same is a sufficient cause to develop such a state.

Let us now drop the subject of mental weakness as the result of disease, and take up the mildest form of deficiency in the cerebral functions, *imbecility*, which cannot be traced to any other previously existing mental alienation. This ailment, in our classi-

fication, is a *congenital* deficiency of the organic functions of the highest cerebral centers. Particularly apparent is the defect in the center of ideomotor reflex action. From birth the case shows that the faculties of emotion and intellect are developed, but not sufficiently enough for him or her to exercise the mental functions of a sane human being to that perfection which would admit an acknowledgment that the individual is entirely responsible. The degree of that insufficiency cannot be given except that it ranges between simply foolish and inconsiderate acts and the inability to draw inferences from a group of systematized impressions. It, therefore, is more or less, a mild form of idiocy, but as we desire to draw a margin for the better understanding of the subject, we will say that at this point idiocy begins. The slight degree of reciprocity of impressions, with the corresponding appreciation of the same, will, of course, diminish the ability to form a correct idea whereupon to act. An imbecile, therefore, can think, but does it no farther than the impression has actually made at the present without any tendency to infer future consequences; he feels and reciprocates with apparent emotion, but only in so far as regards his own self, no consideration of the impression as received being applicable for further use arises in him; he talks even rationally, but not in a direction for higher aspirations, only limited to his own animal gratifications. Some are affectionate, not as a moral virtue, but because the patient has experienced much good from the one loved. Some evince great passions and uncontrollable desires without regard of what consequences to others. Some are somewhat shrewd in the plan and execution of some hobby, but it is immaterial by what means that plan is executed; some of them even show signs of wit, but ridiculous as that may appear it lacks an intended applicability. The mental condition of many is high enough for them to be able to do considerable of the ordinary duties of life, to the extent at least of the mechanical execution thereof. They learn somewhat, and their reasoning faculties can certainly be improved by wise and careful instruction. Not only the occasional outburst of pas-

sion, but also hallucinations have made the imbecile frequently dangerous so that homicide, arson, etc., have resulted.

The greatest difficulty in imbeciles seems to be the inability of systematically arranging outward impressions to form a correct idea or judgment of them for something new. All the acquirements they have attained seem more virtues by habit than by moral self-persuasion. Hence, it arises that an imbecile can analyze what he has been accustomed to do with tolerable logic, but is unable to synthesize, to do something new.

Idiocy.—What has been taught the imbecile through experience remains unacquired in the idiot, for he lacks the judgment. What he contemplates doing will be executed without foresight, because he is unable to speculate reasoningly. All reflex actions remain confined to the first impulse without previous reflections of feasibility of the act occurring; and of that act so little impression is retained that the recollection of it is not to be expected. Therefore, an idiot hardly ever learns by past experience, and if from any previous act bad results follow it will not likely prevent a repetition. As the memory is very poor the idiot cannot associate any present idea with a past one, or an intended act with a similar one previously executed. Nothing shows an association, everything is done *per se*. This isolation from all ideas leads such a person back to purely animal propensities and desires, therefore eating, drinking, and gratification of sexual desires are the influencing thought.

There are idiotic cases where only partial vagueness of intellect exists as if only part of the brain were affected. Such patients have then an extraordinary talent in some direction, mostly mechanical, such as carving in wood; or that memory for certain things is quite prominent, as for names or for history, etc., but very poor for anything else. Then again the idiot shows a propensity for certain acts or thoughts, thereby often showing a one-sided character. For instance, the one will steal what he can, another tell falsehoods, another be of a very irritable temperament with pugilistic disposition, and frequently we meet with

dangerous characters liable to commit arson or murder. But it is to be remembered that, aside from these one-sided propensities, every other evidence of idiocy exists.

So far the milder cases of this mental stage have been described. Many idiotic minds lie much lower in the scale of cerebral force, and such cases will bring back to your memory that case of advanced dementia described to you previously. Not that every one is as mute and indolent as that one, although some are so, but on the contrary, part of them show a lively disposition and much activity, although the mind is at its lowest ebb, and what there is done is so void of sense as to preclude all appearance of anything intellectual. The dull idiot is not only morose, but of a really ugly and dangerous disposition, while the lively sort are tractable and good-natured. Experience has taught that idiots are not insensible to good treatment and often are really attached to persons under whose care they are. Ill-treatment makes them malicious and disagreeable.

Some words on the general external appearance of these unfortunates. Undoubtedly there are cases, and we sometimes meet them in our every-day life, which offer nothing remarkable in their appearance. The large majority, however, have that characteristic vacant stare, features often distorted, large ears, curled lips, squinting of eyes, or some kind of bodily deformity.

In many cases a defect of one or several or all of the five senses is noticed—sometimes they are quite obliterated. We see cases where the poor creature is completely deaf, dumb, and blind. Such abnormalities of creation only live like a plant, only vegetate, are beneath any animal life; they can only perform movements and partake of nourishment by the assistance of another.

The anomalies of special sensation are often curious. Myopia and presbyopia are frequent, strabismus not uncommon, and many defects in vision are brought about by the idiots interfering with normal functions of the eye, such as exposing them to the rays of the sun, or pressing and turning the eyeball with the fingers, and the like. Monotony seems to attract their fancy, and they imi-

tate such sounds. The taste is often perverted; they eat what others refuse, and delight in what would be disgusting to any one else. The same can be said of the organ of smell. Their feeling is dull and obtuse, so that what would seem extremely painful is often entirely disregarded and seemingly unnoticed by them.

The voluntary movements are also either sluggish or perverted, but always vague and often purposeless. Paralysis, convulsions, cramps of the extremities, tonic contractions of muscles, twitchings, are not unfrequent. Distortion of muscles, hemiplegia, and even paraplegia are frequently associated with idiocy. One or more of these anomalies are nearly always to be found, so that but few idiots with a complete healthy organism can be met with.

The developments and physiological changes of life are generally retarded, such as sexual development and desires, menstruation, second dentition, etc. The development of the head is frequently abnormal or congenitally defective, so as to have induced some writers to make two divisions—large and small-headed idiots.

We must divide the *causes* of idiocy into three periods. 1. Before birth. In a majority of cases we are not justified in imputing the cause to the parents, although it is well known that a diseased condition of the parent will influence the child, particularly diseases like syphilis, scrofula, epilepsy, rachitis, and alcoholism. But if we reflect, we would ask, how many idiots ought there to be born if such were true once in ten times? It is probably more likely that a deficient hygienic life of the parents with want of moral aspirations and civic connections has an influence on the offspring's mental organism. A congenital deformity of the head is to be mentioned here as a cause. 2. During gestation and parturition. A cachectic state of the mother, fevers, and sometimes violent shocks to the mind during gestation may produce weakness of mind in the child. Further, any injury done to the child's head by instruments, pressure, traction, etc., will induce similar results. 3. After birth and during early

childhood. Ignorant or malicious maltreatment of the child, injuries, diseases such as scrofula, rachitis, convulsions, etc.

Almost entirely based upon causation, Dr. Ireland has made a classification of idiocy, viz. : (a) Hydrocephalic idiocy, in which he states paralysis, dullness of touch, and deafness are not uncommon. Prognosis of these cases—subject to considerable improvement. (b) Eclampsic idiocy, convulsions of children, especially during dentition. Prognosis—unfavorable. (c) Epileptic idiocy. Cases of this sort are usually intractable and malicious. Prognosis—although amenable somewhat to education, unfavorable. (d) Paralytic idiocy. Prognosis—more subject to mental than physical improvement. (e) Inflammatory idiocy caused by inflammation of the brain. Prognosis—favorable. (f) Traumatic idiocy produced by injuries to the brain or its meninges, either by a fruitless attempt at abortion, or during parturition, or accident after birth. Prognosis—variable. (g) Microcephalic idiocy. The smallness of the head may be due either to want of development of the brain, or want of growth of the bones of the head with premature closing of their sutures. Prognosis—favorable. According to Dr. Ireland, they are more than any other idiots liable to physical and mental improvement by training. (h) Congenital idiocy. In these cases, which Dr. Ireland calls hereditary, malformations, and abnormal development of the body are frequent. Prognosis—depends upon the amount of activity shown as an infant, and particularly in regard to the tactile senses. If such are reasonably fair, a fair prognosis can be made. (i) Idiocy by deprivation, when two or more of the principal senses are wanting, most frequently the sight and hearing. Our deaf and dumb asylums and institutions for the blind have done much to ameliorate the condition of such unfortunates. To Dr. Ireland's last class of idiocy, "*cretinism*," we will now devote a special consideration.

Strongly allied to idiocy, but peculiar in causation and symptomatic manifestations, is that singular kind of depravity of sensory, ideal, and intellectual exhibition of the *cretins*. In them it

appears that the whole nervous organization from the excitomotor system to the reflex action of the will is an organo-functional abnormality, exercising its abnormal influence on vegetative life during the growth and development of the individual ex utero. The first question presenting itself is naturally whence arises this anomaly of growth? Now, the fact that, although occasional sporadic cases of cretinism do occur anywhere, the locality of the most of them can be traced to mountainous districts, with steep elevations and narrow vales, such as occur in Switzerland, Savoy, Piedmont, Styria, some parts of France, and of Southern Germany, it led first to the belief that moist ground and territory was the cause. But, again, the fact that in many regions of such development of ground, cretinism could not be found, led to many further and more scientific explorations on the subject, either by single individuals or by scientific commissions appointed for the purpose. Although these investigations have been very thorough, the bottom has not yet been reached nor the subject exhausted. Nevertheless, the conclusions arrived at by Morel, Grange, Sir John Forbes, the Sardinian and other commissions, the reports of travelers and geologists, the pathological researches of men like Virchow, are such as to permit of the now generally admitted theory that the presence of alkaline and earthly salts in the soil and water, not too strongly bound by chemical and physical laws to other ingredients, or among themselves, are, when in excess, the producers of what might be called a miasma, which retards the development of the nervous system. The principal elements seem to be combinations of lime, and of magnesia.

As an idiocy, we find cretinism to be graded: 1. Such as have purely a vegetable life, but not even capable of reproduction. 2. With a slight degree of sensory and intellectual development as far as is needed for their bodily wants. 3. Where intellectual faculties and power of speech are so much developed as to allow of limited employment. We can often recognize a cretin during early childhood by the slow development of the body, swollen

abdomen, thin extremities, excessive appetite, much sleep, retarded teething process, stupidity of countenance, large head and want of ability, or independent efforts to move. In fact, many are unable to walk before the seventh year. As the child grows we notice particularly the defect of articulation so common in cretins, and which is often not acquired at all. Only shrill, harsh, and unmeaning sounds are uttered. Some or all of the senses are incomplete or wanting, and, therefore, a corresponding want of response to any impression, and lack of irritation of what is tried to be taught. After the eighth year, when we may say cretinism begins to develop to its maturity, we note the following: Diminution in the circumference of the cranium; Brachy-cephalic development (distance from root of nose to occipital protuberance short); appearance of face old and wrinkled, with projection of superior maxilla and retraction of the inferior; goitre (an almost concomitant abnormality); retardation of the growth of the body (therefore, height not over three or four feet, rarely five feet), with evidence of impaired nutrition; absence of reproductive powers, or at least incomplete erections; sluggish movements; undecided steps on account of insufficient co-ordination of motion, and lethargy of muscular activity; actions and countenance of a complete imbecile; great defect in speech or complete dumbness; early decline of life, they seldom reach the fortieth year. In addition to these symptoms, we might mention almost all those named under the chapter of idiocy.

You will naturally ask now the question, wherein is the difference? First of all, in the birth. An idiot (if his state is not subsequently developed by an injury to the brain) is a born idiot. Cretinism is developed gradually after birth. Signs of it are noticed variably from birth to the eighth year; if not by that time, it is tolerably certain that the individual has escaped the calamity. By this I would not exclude hereditary disposition. Facts prove that a semi-cretin marrying another semi-cretin, where issue was possible, resulted in the reproduction of a complete cretin. Another diagnostic point between idiocy and cretinism is that the

former can occur in any locality, while the latter is almost always endemic, seldom spasmodic. Further, two-thirds of all cretins have an enlargement of the thyroid gland (goitre), which is not peculiar to idiots. Then, again, in cretins the constant coincidence of muscular with nervous inferiority of development, particularly the want of co-ordination of motions. Lastly, the fair prospect of arresting the mischief done, and sometimes affecting a cure in a cretin by early removal from the locality of its incipency. This cannot affect an idiot.

Prognosis.—When this disease is fully developed, or, in other words, when the subject is not removed in its infancy from the cause of the disaster, it is very unfavorable. Much can be done toward ameliorating the condition of these unfortunates, as has been shown by Doctor Guggenbuhl, of Switzerland, to whom much praise is due for his sound sense and activity in alleviating the state of these poor creatures. His institution at Abendberg is lauded as a model of its kind.

Before leaving the subject of *mental weakness*, I wish to impress upon you the importance of this part of insanity, particularly the state of dementia during your future studies of psychological medicine. You can have no better subject for your study of insanity than a case of dementia well recorded, for, from it, by going back to its first cause and form, following its progress during depression and exaltation and its ultimate exhaustion and decline, you gain the clearest insight into the course of insanity.

WANTED.—The first nine numbers of Braithwaite's Retrospect. Also, catalogues of Starling Medical College for the sessions 1865-66, 1871-72, 1872-73, 1874-75, or any catalogues previous to 1862. Any one having any of the above will find a customer by addressing Dr. J. H. Pooley, 117 East Broad street, Columbus, Ohio.

MISCELLANY.

OHIO STATE MEDICAL SOCIETY.

The thirty-third annual meeting of the Ohio State Medical Society was held in Columbus on May 14, 15, and 16. Let us hope that it was altogether exceptional in character, for if this meeting is a fair sample of the Society's usual work, life is too short to be wasted in so purposeless a manner. The meeting was called to order in the City Hall, at 2 P.M. of the 14th, by the retiring President, Dr. W. J. Scott, of Cleveland, who set an excellent example by being brief in his remarks. After prayer by Rev. Willis Lord, D.D., the President for the year, Dr. W. H. Phillips, took the chair. Dr. C. P. Landon then delivered an address of welcome in his customary manner, which is both eloquent and emphatic. An attempt was then made to transact the routine business of the Society, when the fact became painfully apparent that although an orator like Landon might be heard with ease and pleasure, no ordinary mortal could make his voice audible in the City Hall. Nevertheless, a number of committee reports were made and a number of new members admitted, and although any action which may have been taken was guided entirely by a blind and deaf faith, no great harm was done. Dr. Loving then read a report on the progress in medical science during the year. All of it that was audible was good, from which we infer that it will be found interesting when published. The first day closed with an entertainment at the Blind Asylum, during which the pupils of the Institution rendered the Opera of Oberon wonderfully well. The morning of the second day was spent in another wrestling with the acoustic horrors of the City Hall, in which the Society was as before ingloriously defeated. They succeeded, however, in electing officers for the ensuing year as follows: President,

Dr. B. B. Leonard, of West Liberty; Vice Presidents, Drs. J. C. Kennedy, of Batavia, J. L. Mounts, of Morrow, B. F. Hart, of Marietta, and T. B. Williams, of Delaware; Treasurer, Dr. T. W. Jones, of Columbus; Secretary, J. F. Baldwin, of Columbus; Assistant Secretary, Thomas Waddle, of Toledo. In the afternoon an adjourned meeting was held in the Senate Chamber of the State House, when the scientific work of the Society began. Dr. Phillips, the President of the year, read a long and instructive paper on the subject of "The Medical Expert," covering much the same ground presented in the paper of Dr. Conklin, in the April number of this JOURNAL. Much of the discussion which followed was aimless and unprofitable, and indeed no attempt was made to discuss the paper itself but only what should be done with it. This was attributable not to any unwillingness or inability on the part of the members, but an invitation to the Central Ohio Lunatic Asylum proved to be more enticing, and before 4 P.M. the Society departed for that congenial harbor. There the newly appointed Trustees and Superintendent endeavored with lavish hospitality to entertain their guests and exhibit the elephantine structure in its most favorable aspect. Dr. Firestone is like the building itself, of substantial and massive proportions, and we are to be congratulated that the Institution falls into such good hands, especially when the partisan motives which caused the late lamented legislature to make a change are taken into account. The third day found the Society in a somewhat different temper. Having wasted two days in side shows and routine business, they vehemently resolved that in future the Society would accept no invitations to be amused until its business was transacted. This, if adhered to, will inaugurate a new era and be productive of good work. A few papers were then read, none of which were of absorbing interest, but then review must be deferred until the publication of the Society's transactions. The Society adjourned to meet next year at Dayton, where we look for an improved order of things, and some real scientific work. This at least was gained by the meeting of 1878, that the worthlessness of past methods

was felt to be no longer tolerable, and although the profession were not enlightened by the gathering, the social converse and genial mingling of the members was productive of increased harmony and "*Gemuthlichkeit*" in the profession.

THE AMERICAN MEDICAL COLLEGE ASSOCIATION

Met in Buffalo, June 3, 1878, at 10 A.M. Representatives were present from fifteen colleges, and several others arrived during the session. Prof. T. B. Biddle presided with his accustomed grace. Several colleges whose application for admission was pending were admitted to a share in the deliberations. The first business of importance was the consideration of the admission of the Medical Department of Howard University. Objections had been filed on the part of Jefferson Medical College. First, because no fees were charged in the institution, and secondly, because women were taught in the same classes with men. To these objections an answer had been presented by the Howard faculty, which was in the nature of a Fourth of July oration, but failed to show the justice of forcing private enterprise to compete with gratuitous instruction at the public crib. As for the sexual question, "*de gustibus non est disputandum.*" On a vote the application for admission was rejected by an almost unanimous vote. It is quite possible that the reasons for this course were not entirely presented in the objections filed, and that the vote was in a measure influenced and justified by the conviction that the Howard University has too close a connection with the general government to remain of reputable virtue for any length of time.

Wooster University was then called on to explain several slight irregularities in its announcement and report, which was done to the general satisfaction. The Nashville Medical College was put under the ban for having two lecture courses each year, and similar devices for rapid diploma making. The new "Ft. Wayne Medical School" made a slight attempt to pass itself as the "Medical College of Ft. Wayne," but was instructed to apply regularly for admission in the usual way. This comprised the

“special legislation ” of the Association. Prof. Flint, of Bellevue, offered a resolution calling on the Secretary for a list of college, members of the Association, colleges not members but which were in accord with it and whose tickets and diplomas could be recognized, and thirdly, colleges which could not be recognized. This resolution was referred to a committee, shorn of some objectionable features and adopted. The crowning work of the Association was the presentation, discussion, and adoption of the following resolutions, introduced by Prof. Gross, of the Jefferson, and which are important enough to record entire.

Whereas, It is eminently desirable that the medical schools of this country should adopt a uniform system of instruction, of a grade fully in accord with the requirements of the age in other branches of study, and with the practice of the medical institutions of Europe; and

Whereas, All the efforts to bring about such a change on the part of the American Medical Association, of the association of medical teachers assembled at Cincinnati in 1867, and at Washington in 1869, and of different State medical societies, have signally failed; and

Whereas, The present time seems to be peculiarly favorable for taking strong ground upon the subject, inasmuch as it is now attracting general attention throughout the United States; therefore,

Resolved, That this Association respectfully and earnestly request that the regularly organized and accredited schools of the United States hold, at their earliest convenience, a meeting for the purpose of adopting some definite and final action upon a subject of such vital importance to the dignity, character, and usefulness of the profession, and the welfare of the American people.

Resolved, That in order to impart proper efficiency to this plan, each and every college be requested to send two delegates, consisting of one member of each board of trustees, and of one member

of each faculty, with full power to act for their respective institutions.

Resolved, That the medical and secular press throughout the United States be respectfully requested to lend their aid in the dissemination and discussion of these preambles and resolutions, in order to place the whole matter of medical education prominently before the profession and the public ; and

Resolved, That a copy of these preambles and resolutions, signed by the President and Secretary of this Association, be transmitted to the officers of every regularly constituted medical college in the United States, with a request to hold the contemplated meeting at Washington City, or some other central point, on the first Wednesday in September next, or as soon thereafter as practicable.

These resolutions were amended, so that the call for the meeting was made the Friday before the meeting of the American Medical Association, in 1879, and after full discussion, unanimously adopted.

Space forbids further comment at present, but we will take an early opportunity to point out the full importance and bearing of this movement, and the necessity for universal and hearty co-operation. The officers of the Association were re-elected. The report of the Secretary showed a deficit of \$4.25, and an assessment of \$5 was levied on each college for the ensuing year. Dartmouth College offered its resignation as an active member, which was laid upon the table until next year. The Association then adjourned to meet in 1879, at the time and place of the meeting of the American Medical Association. Its proceedings were marked by a degree of harmony and enthusiasm scarcely to be expected from such apparently conflicting interests, and the success of the organization seems to be fully assured.

THE subject of the treatment of disease by the outward application of various metals continues to be investigated. We extract the following from a lecture by Dr. Wm. A. Hammond,

published in the *Medical and Surgical Reporter*, which will, no doubt, settle the question for most physicians.

“ I think I can show you in a few minutes just how much there is in Dr. Burq’s metal therapeutics. You will probably discover that there is a good deal in it, but I scarcely think you will determine that it is exactly what he and M. Charcot declare it to be. I have here a small box containing several sharp needles of gold, steel, and platina, and a number of pieces of metals of various kinds, and of other substances not metallic. Among the metals are gold, silver, copper, steel, brass, zinc, bronze, lead, nickel, platina, tin, etc. Among the non-metallic substances are hard rubber, wood, ivory, tortoise shell, etc. They are all of the size and shape of a twenty-five cent piece.

Now, I will call in from the waiting-room a female patient, an epileptic, and who is, moreover, strongly hysterical. I will give her to understand that I am about to apply a new system of medical practice, the accounts of which, from Paris, are very strong in its favor, as a curative agent in diseases like hers. I will tell her, that by the application, in a particular way, of a plate of gold to her arm, the nervous system will be so strongly impressed that she will experience very remarkable sensations in the part, and that in a short time thereafter the feeling of that and the neighboring regions will be entirely destroyed. But instead of using a gold disk I will take one of these of tortoise shell or ivory, and you will probably find that all the phenomena I have mentioned will be produced. I may fail, for I have made no experiments on this girl, and it is not every case that is favorable. A fact which Dr. Burq did not fail to remark.

[The patient, a girl of fifteen, now entered the lecture room, and Dr. Hammond, after describing the case to the class, addressed her as above, and then resumed]—

You see, gentlemen, that the sensibility is intact, for when I prick the skin of any part of the left arm, she winces, and the blood flows readily. I now press this little disk (tortoise shell) on the surface of the back of the wrist, and hold it there firmly a

few moments. The patient says it begins to feel warm, and that a sensation of heat extends up the arm. In a minute or two longer I think the sensibility will be entirely destroyed, and then I shall stick this steel needle into the arm, and I venture to say she will not feel it.

[The lecturer waits about two minutes, during which time the patient repeatedly calls attention to the fact that she feels queer sensations in the arm. Suddenly she says the feeling is all gone ; Dr. Hammond removes the disk of tortoise shell, and thrusts the needle into the arm beneath, to the extent of half an inch. The patient gives no evidence of sensibility, does not appear to know that the skin is pierced. Other punctures are made in various parts of the arm, above and below, and all are anæsthetic.]

You see, gentlemen, that the experiment has entirely succeeded. It would be perfectly easy to get like results from any part of her body. I will now ask her to leave the room while I explain the matter more fully to you.

You have seen what effects were apparently produced by the little tortoise shell disk, which she took to be gold. I will now show you that when properly managed, exactly opposite effects can be got from the tortoise shell. You can, in fact, make it blow hot and cold with the same breath. I am going now to use the tortoise shell disk on the opposite arm, telling her that it is platina, a metal of which she does not know much, if anything, and that the effect will be to cause pain in the arm, and to make it more than naturally sensitive.

[The patient is again called in, and is told that a platina disk will be applied to the right arm, and that the effect will be to cause intense pain, and to render the arm very sensitive to the prick of the needle. The tortoise shell disk is placed on the back of the right wrist, and it hardly touches the skin before she begins to complain of shooting pains up the arm, reaching even to the neck. These, as she declares, increase in intensity till the disk, at the end of four minutes, is removed, in order to obviate her sufferings. The skin is now barely pricked with the needle, and

she screams with pain. Another patient, a woman suffering from apparent cerebellar disease, is introduced, and like experiments are successfully performed upon her. Dr. Hammond then continues.]

During the last two weeks I have cured several paroxysms of migraine by applying some one of the disks (it does not matter which) to the forehead, and have restored sensibility to a hemianæsthetic and hysterical lady by fastening disks of hard rubber to the arm and leg with bands of adhesive plaster, so that she could not see what was underneath. I have not tried to transfer anæsthesia from one side of the body to the other, or to restore the perception of color, but I will show you both these phenomena soon, and probably several others not discovered by MM. Burq and Charcot.

I will show you one of these, and you can practice it on yourselves. Doubtless in some cases it has something to do with the result.

I take this disk (it happens to be copper, but any other will serve the purpose) and press it on the back of the wrist for a few minutes while I go on talking. You will see when I take it off and stick a needle into the skin that the blood does not flow, and I will be able to tell you, with entire truth, that I do not feel any pain or even a sensation from the wound. I confess that when I first did this I was for a moment a little surprised, but I very soon perceived that the anæsthesia was due to the pressure of the substance on the skin, and resulted, no matter of what material the disk was composed, so long as the pressure was sufficiently firm. I now take off the disk and stick this needle through a fold of the skin, and I assure you that if I did not see it, I should not know it was there, from any sensation it causes. I pass round among you several disks and needles, and you may try this interesting but very simple experiment for yourselves.

But to return to our subject as understood by MM. Burq and Charcot. The former thought the results were due to some hitherto unknown quality of the metals; the latter, without being

very positive, seems inclined to adopt this view. The principle of suggestive or expectant attention, which I have so often brought to your attention, was not recognized when Dr. Burq first wrote about metal therapeutics; but MM. Charcot strongly repudiates the idea that any such factor has aught to do with the results. In this I am quite sure (as doubtless you are also, from what you have just seen) that he is altogether wrong, and that to this principle and to nothing else the results of metal therapeutics are to be ascribed. They are to be placed in the same category with those obtained from the metallic tractors of our countryman Perkins, and which Dr. Haygarth showed followed equally well on the use of wooden tractors painted to look like the metal ones. It is all nothing but suggestive and expectant attention. You tell the patient what she is to expect, and if she has confidence, the prediction will be realized, whether it be an increase of strength, a restoration of the perception of color, or the production of anæsthesia or hyperæsthesia.

IN the last number of the *Journal of Nervous and Mental Diseases* is an article entitled "Reform in the Study of Psychiatry," by Dr. E. C. Spitzka, of New York, which is so remarkable a document, both for its facts and the impression they have made, that an abstract will not be amiss. The author begins by pointing out the true place of psychiatry in medical science, claiming that it is only a subdivision of neurology. This is justified on the ground that the lesions producing insanity are similar to those of other diseases. "It seems to be the seat, rather than the character of the lesion, which determine insanity in one man, ordinary nervous disease in another. In illustration of this; I need but point to tumors, disseminated sclerosis, syphilitic affections, and to perimyelitis as contrasted with periencephalitis." The oft-forgotten fact is also impressed that to be a good specialist in any department of medicine, the whole field capable of even remotely affecting that specialty must be studied; and

although the author does not allude to it, it is nevertheless true, that a thoroughly good specialist is usually an excellent physician in general practice, unless his specialty is a very narrow one. This is especially true in nervous disorders, from the fact that almost every morbid condition is capable of disturbing the nervous system in some way, and because of the well nigh universal domain of that division of the economy. But, complains Dr. S., "it is only under exceptional circumstances, if ever at all, in America, that the teacher of nervous diseases can command the material essential to a thorough clinical and pathological demonstration of insanity. This is chiefly on account of a feeling among a number of asylum superintendents that they can claim to monopolize the science of psychiatry, to exclude every non-asylum physician from this field, and that they alone are entitled to teach this subject in our medical schools. *A priori* there can be no fairer proposition than this: that he who has devoted his life-time to a given specialty ought to have the first voice and the high privilege of instruction in that specialty. If capable, zealous, and honest specialists establish a monopoly in scientific matters, even a monopoly may become endurable. But I would most strenuously object, that every one who may have happened to possess the requisite social and political influence to receive an asylum position, is, therefore, to be considered a psychiatrist. Such a conclusion, based on an acceptance of a discreditable *statu quo*, has been the great bane of American psychiatry, and, I regret to say, has been diligently fostered by that narrow circle of asylum physicians which furnishes the *ex-cathedra* statements of the asylum association. To these statements too much *blind obedience* has been paid in the past, too little *attention of the proper kind* is paid to them at present." With this war-cry begins a formidable arraignment of asylum superintendents in general, and of some bright and shining lights in particular. The first charge is that "nothing worthy of notice has proceeded from our insane asylums, in the fields of pathology and clinical observation." Secondly, that what do appear "are frequently abstracted

from articles appearing in trans-atlantic journals, or if *quasi* original, are still more worthless." For instance: "If we look at their annual reports, we find that some of them wax enthusiastic over the prizes gained by their hogs and strawberries at agricultural fairs, while others give you the benefit of their historical ideas on insanity. Beginning with David and Solomon, they pass from Scripture to Homer, thence to Bedlam, and tracing the development of humanitarian sentiments to the present day, when unlucky legislatures were induced, through the expansive views of the superintendents regarding the insane millenium, to appropriate ruinously extravagant sums to the erection of an insane paradise, they kindly permit their trustees to publish such "historical" documents, accompanied by caricatures of morbid brain tissue in the illustrated monthly magazines. Judging by the average asylum reports, we are inclined to believe that certain superintendents are experts in gardening and farming (although the farm account frequently comes out on the wrong side of the ledger), tin roofing (although the roof and cupola is usually leaky), drain-pipe laying (although the grounds are often moist and unhealthy), engineering (though the wards are either too hot or too cold), history, (though their facts are incorrect and their inferences beyond all measure so); in short, experts at everything except the diagnosis, pathology, and treatment of insanity." No names are mentioned, but several institutions are so thoroughly dissected as to leave little doubt as to their identity. The author finally offers to substantiate in detail all his statements, if called upon to do so. Mingled with the denunciation of existing methods are some suggestions as to how the study of insanity can be lifted from its low estate. The first is rather inferential, that asylum superintendents should be selected for their ability rather than for their political influence. Second, that the medical profession should be better instructed in the recognition and treatment of insanity. To accomplish this, it is recommended to add to the staff of every accessible asylum competent clinical teachers connected with medical schools, "who shall

have the same relative grade, functions, and privileges enjoyed by visiting physicians of other hospitals." This, it is hoped, would enable the rich and wasted stores of material now in asylums to be utilized; the managements of such institutions would be more efficient and, with a wider knowledge in the profession, more cases could be treated at home, and the enormous sums now wasted in building palatial hospitals be saved to the taxpayer. The effect of the paper when read before the Neurological Society appears to have been unusual. A superintendent who was present and urged to reply, had nothing to say, and an unfortunate assistant physician who ventured to discuss a part of the subject was promptly discharged by his superintendent. The Medico Legal Society appointed a committee to memorialize the Legislature regarding the alleged abuses.

DR. E. B. STEVENS, of Lebanon, Ohio, is *enciente* of a new journal, to be called, when born, *The Obstetrical Gazette*. The accouchement will take place in Cincinnati, and it is confidently expected in July. A safe delivery, and long life to the new-comer!

IN April, Dr. M. B. Strickler, of Perry county, Pa., was sued for malpractice in a case of fracture of the femur in a boy eight years old. The leg was treated with lateral splints only, without extension, and was found to be five-eighths of an inch shorter than the sound limb. It was ascertained that the older brother of the boy had a natural difference of three-eighths of an inch in the length of his legs, which, with the measurements of Dr. Wight and others, led to the withdrawal of the suit by the plaintiff. The *Hospital Gazette*, in commenting on the case, says: "This is probably the first time in which the observation recently made by a number of careful observers of the frequent absence of symmetry in the opposite limbs of the same person, has been offered in court as a defense against a prosecution for malpractice. It is, no doubt, destined hereafter to occupy a conspicuous place in this class of cases."

WE desire to return thanks to the *Richmond and Louisville Medical Journal* for friendly advice and generous criticism. The approval of good men is a rich reward. (Delinquent subscribers, however, need not confine themselves entirely to approval.)

CORRESPONDENCE.

LEIPZIG, May, 1878.

DEAR DOCTOR: The "Krankenhaus," or hospital of Leipzig, in which there are about six hundred beds, is contained in an old, three-story building of a not very large size, used chiefly for residences and lecture rooms, and then a series of barracks, or pavilions, situated in a large garden. This place was one of the first to adopt the barracks system for its hospital, but many others have since followed, notable among which is the new city hospital of Berlin, occupying a large part of a park with its main building, and six one-story and six two-story red brick pavilions, furnished in fine style. The ventilation in these is simply perfect, there being no trace of any odor or smell.

The surgery of Leipzig is chiefly remarkable for the thorough manner in which the antiseptic method is carried out from end to end in all wounds and operations more than skin deep.

Before every operation, the surface to be operated on is thoroughly washed with a solution of carbolic acid, and all instruments and ligatures are kept well covered with a similar solution. In ovariectomies, etc., the professor and assistants take care to bathe their hands, heads, and beards in the carbolic. From the moment of the first incision, the spray, or, in large operations, two sprays, are kept constantly on the wound until the dressings have been completed. When the dressings are renewed, this is again done under the spray. One of the sprays is operated by air compressed by the water-works, the other by steam. Whether the amount of cold air which comes in contact with the wound through the air sprays is injurious or not, might be a question. There is a slight modification from the original antiseptic mode, in that carbolized jute has been substituted in dressing as a much cheaper article, but this is, of course, too slight to be of any consequence.

The good results attained by this thoroughness are certainly very striking, and cannot be attributed to good operating alone, for I will tell you,

in all confidence, that the larger number of German surgeons are by no means elegant or handy operators.

The medical clinics are now permanently conducted by Prof. Wagner, Cohnheim having accepted the call to the chair of pathology; certainly another bright star in the already brilliant medical firmament of Leipzig. The foreigners attending the clinics here, as elsewhere in Germany, complain that the treatment of disease is not discussed thoroughly enough, that being considered too empiric and rather beneath their dignity by the Germans.

The Physiological Institute deserves more notice than it received in my last letter. This occupies a two-story building, with raised basement, built around three sides of a square, thus insuring plenty of light in all the rooms. The lecture-room is in an addition between the two lateral wings. The second story of the building is occupied by the residences of the professor and the servants. In the first story of the first wing is the histological department, furnished plentifully with microscopes and the necessary apparatus. In the middle wing is the library, the rooms where the operations are made, and the collection of apparatus needed in physiological research. It will be sufficient to say that everything useful is here represented. In the last wing is the chemical laboratory, and a room for experiments in optics. In the basement there are storage rooms, frog room, dog kennels, and the engine for driving the air pumps and other machinery.

There are three assistants to Prof. Ludwig, one each for histology, chemistry, and physics, while all vivisections are done under the personal supervision of Prof. Ludwig, who, by the way, is an active member of the Society for the Prevention of Cruelty to Animals.

Everything is carried on on that liberal scale so necessary and indispensable to the profitable prosecution of scientific research, and no experiment is ever stopped because a certain number of dollars and cents would be required for pushing it, in the way of new apparatus or fixtures.

With all due respect to German knowledge, perseverance, and training, still their great success is also immensely aided by the magnificent sums from the government placed at the disposal of scientific men, in which no country equals Germany, nor will any other country probably be able to successfully compete with her until it does so.

A. M. BLEILE.

REVIEWS.

The Advantages and Accidents of Artificial Anæsthesia. By LAURENCE TURNBULL, M.D. Philadelphia. Lindsay and Blakiston. 1878.

Hash, if properly made, is a wholesome and attractive article of diet. It is likewise no disparagement of a book to say that it is only a compilation of facts already published. If the facts are well compiled, with a unity of design, and skillfully flavored with attic salt, they acquire new force and utility. To continue the simile, they become attainable to those who cannot afford to have the original monographs, journals, or systems in which they first appeared, and are more readily assimilated by those whose mental digestion is too weak for more elaborate treatises. The book before us is of this unpretentious but wholesome nature. Its aptly alliterative title does not well express its intent, since the advantages of anæsthesia do not need recital. They might be dismissed in a single sentence, and, in point of fact, are comprehended in a single page of the book. The therapeutics and methods are, however, quite completely dealt with. A list of twenty-one anæsthetic agents is given, which is exclusive of the local anæsthetics; but only those which are in general use and are well known are treated of. The first chapter contains descriptions of various inhalers, which are mainly noticed in the words of their original inventors. The author wisely makes no choice, but allows the reader to imagine for himself which of them is the most useless. The same policy is, for the most part, observed in detailing the various mixtures of anæsthetics. The first one mentioned is the mixture of alcohol, chloroform, and ether, known as the A. C. E. or ace of spades mixture, and the most agreeable and dangerous of all. Of this, the author says: "I have always found that when such mixture was poured upon an inhaler, the most volatile spirit will arise first, then the next, and so on, leaving the least easily evaporated upon the inhaler." This statement would be more valuable if accompanied by an account of the method employed to find this out. The separate evaporation of the ingredients has long been suspected and is quite probable, but it certainly needs more definite proof than olfactory sensations. Much more valuable are the sphygmographic tracings before and after etherization, showing the effect of ether upon the pulse. It is to be regretted that the

same data are not given in the chapter upon chloroform. The marked effect of a glass of whisky in hastening anæsthesia is noticed, and also the effect of having a musical box in operation; and, in fact, there is very little that is not mentioned. The most important part of the book is that which discusses the choice of an anæsthetic. The *pros* and *cons* are alike given on the dangers of chloroform, and the author himself decides in favor of ether, but not with as much earnestness as is desirable. It is nearly time to hang some one for a chloroform murder, and, while we write this, there appears to be a fair chance for such a result. A dentist in Philadelphia, recently killed a woman with chloroform—"heart disease" also existing—and the coroner's jury found him "guilty of criminal ignorance." The coroner, in committing him to await the action of the grand jury, "censured" him for using chloroform instead of ether. The censure of the righteous ought to be a powerful restraint upon evil doers, but hemp has much more experience in its favor. Dr. Turnbull's book is a good manual to guide those who desire truth, and is quite a complete repository of late facts on the subject of anæsthesia—a good book to have in the house—and that is all that need really be said of it in introducing it to the profession. But, for the sake of future editions, it might not be impertinent to correct the doctor in his reading of Shakspeare. On page 14, this occurs: "That insane root which," says Macbeth,

"Takes the reason prisoner,
And in this borrowed likeness of shrunk death,
Thou shalt remain full two and forty hours."

The first line belongs to Banquo, and the next two to the Friar in Romeo and Juliet. "*Ne sutor ultra crepidam.*"

A NUMBER of book notices and reviews are unavoidably omitted from the present number for want of room.

We hope in our next number to make up for this omission, by a more or less complete review of the recent publications. We have always given great attention to this department of the JOURNAL, desiring to make it not only a record of books as they issue, but a guide as to their value, and an indication of the nature of their contents.

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OHIO MEDICAL AND SURGICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

ART. I.—*Intra-Laryngeal Growths*. By CLINTON WAGNER, M.D., Physician to the Metropolitan Throat Hospital, Fellow of the New York Academy of Medicine, Fellow of the American Laryngological Society, etc., etc.

The following cases of intra-laryngeal growths are described somewhat at length, not from any special interest which they possess individually, for, with a few exceptions, they are of a character which any one engaged in throat practice may frequently observe, but taken collectively, they are valuable from a statistical standpoint, as they demonstrate the frequency of this interesting pathological condition, and may, perhaps, aid in refuting certain objections that have been raised by a recent writer * against their removal per vias naturales.

Before the introduction of the laryngoscope as a means of diagnosis, polypus of the larynx was regarded as of very rare occurrence.† Ehrman, in 1850, as a result of his researches, could find but twenty-six authenticated cases, all of which proved fatal except three.

A few years later, Dr. Horace Green,‡ of New York, in an able monograph, gives the entire number of recorded cases as forty, thirty-seven of which resulted fatally. Seven or eight of the cases occurred in this country, four in his own practice extending over a period of five or six years. When we reflect that Dr. Green had an immense special throat practice, we can realize in

* *The Throat and its Diseases*, Lennox Browne. London. 1878.

† *Historie des Polypes du Larynx*, C. H. Ehrman, 1850.

‡ *Polypi of the Larynx*, Horace Green, M.D., New York, 1859.

a measure the large number of cases of growths that must have been overlooked for want of means of obtaining an accurate diagnosis—to quote his own language, “the symptoms indicative of the existence of these growths are not sufficiently defined to warrant us in laying down positive rules of diagnosis.” I venture to assert that during the past five years, since the introduction of the laryngoscope into general practice, one hundred and fifty would be a small estimate for the number of cases treated in this city alone.

Symptoms.—Alteration of voice, cough, and dyspnœa, with a tendency to spasm of the glottis upon making the slightest exertion.

Voice.—The alteration of voice may range from slight huskiness or hoarseness to partial or complete aphonia; it is distinctive through its peculiar vibratory tone and metallic ring, and differs strikingly from the soft whisper of functional aphonia from paralysis of the adductors, the disagreeable huskiness of syphilitic laryngitis, or the unpleasant squeaking falsetto frequently met with in uni-lateral paralysis of the adductors. I have in some cases been enabled to establish a diagnosis from the voice alone, even before making a laryngoscopic examination.

Cough is by no means an invariable symptom, and, when present, is generally of a short, dry, hacking character, caused by a movable or pedunculated growth.

Dyspnœa will be found only in those cases in which, from the size and position of the growth, the normal caliber of the larynx is greatly lessened.

Treatment.—In the treatment of the following cases, I practised evulsion by means of Mackenzie’s forceps, the best adapted and safest instruments for the purpose that have yet been devised. They are greatly to be preferred to the guillotine of Stœrck, with which it is impossible to remove a sessile growth from the superior surface of the cords, or the awkwardly working tube forceps of Schrötter, and other continental laryngoscopists, on account of the facility of introduction and the ease with which they can be opened or closed after having entered the larynx.

Mr. Lennox Browne,* in advocating non-instrumental interference by way of the mouth, states that serious complications or accidents are liable to follow the introduction of the forceps, such as ulceration, paralysis, perichondritis, caries, injury to the arytenoids, or death from spasm of the glottis.

My experience includes many cases in addition to those reported in this paper, and I have never seen any unpleasant effects follow further than a slight congestion of the mucous membrane, lasting a day or two, and during which the introduction of the forceps was, of course, omitted. With reference to the objection that spasm of the glottis may arise, I would state that I have introduced the forceps and carried them to the sub-glottic region in cases in which the entire box of the larynx was filled with growth, and no ill effects have followed, and I believe that, with a surgeon who has attained a fair amount of skill in the use of laryngeal instruments, the operation for the removal of growths through the mouth by means of Mackenzie's forceps is as devoid of danger, as the passing of a catheter into the bladder, a sound into the uterine cavity, or the needle of an aspirator into a purulent liver.

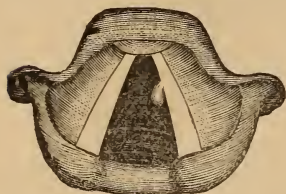
CASE I.—SMALL PAPILLOMA ON LEFT VOCAL CORD—CURE.

Miss C., of New Jersey, aged twenty-five, consulted me in September, 1874, at the suggestion of my friend Dr. Hackley, for a hoarseness, which for nearly two years had prevented her taking the higher notes in singing, and had lately begun to show itself in conversation. The patient was of a very frail, delicate organization, and her parents were inclined to attribute the huskiness in her voice to phthisis pulmonalis, more particularly as they had lost one daughter from that disease.

An examination which was made with great difficulty, owing to nervousness of the patient, irritability of the pharynx and a pendulous epiglottis, revealed nothing to account satisfactorily for the change of voice. The examination was not prolonged, but she was requested to call again in a few days. During the second

* Op. Cit.

examination, the patient gave a short, quick cough; at that moment, a small growth came into view, which proved to be attached to the under surface of the left vocal cord, at about the junction of the anterior with the middle third. During quiet



breathing the growth could not be seen, but whenever a violent effort was made, for instance, during loud talking, singing or coughing, it was thrown upwards and caught between the cords, but was so small, soft, and compress-

sible, that it did not prevent approximation, but interfered only with the fine or more rapid vibrations of the cord, accounting for the huskiness and explaining why there was not aphonia.

The treatment of this case in overcoming the sensitiveness of the larynx, and the natural timidity of the patient was tedious and prolonged, but finally, after I had succeeded in introducing the forceps without provoking instant spasm of the glottis, I instructed her to give a short, violent cough, while the instrument was in the larynx. This, as I expected, threw the growth upwards and between the cords, at which moment I succeeded in seizing and removing it. The patient recovered a singing voice, but not a mezzo-soprano. She sings in contralto, clearly and without effort. I must confess that I cannot explain the cause of this change of key. I have examined this patient quite recently, three and a half years after the operation, there has been no recurrence of the neoplasm, voice and general condition excellent.

CASE II.—LARGE FIBROMA ATTACHED TO UNDER SURFACE OF RIGHT VOCAL CORD—CURE.

George E. ; occupation, butcher ; German ; age, thirty-six ; large, muscular, and robust, stated that he first observed hoarseness about two years ago, the consequence he thinks of a severe cold. He has no cough, but complains of a constant tickling in his throat ; at times he is quite aphonic, but generally his voice has the peculiar metallic, vibratory ring, so distinctive of laryngeal growths.

An examination with the laryngoscope revealed a large fibrous growth about the size of [and somewhat resembling a bean, attached by a pedicle to the under surface of the right cord at about its junction with the middle and anterior thirds. During quiet breathing the tumor would drop below the cords and almost disappear from view (as represented in the adjoining cut), but during the act of phonating it was forced upwards and lay either upon the surface of the cords or between them.



The epiglottis in this case was very pendulous, and the larynx difficult to illuminate, owing to which and the thickness of the base of the tongue, the best and most satisfactory view could only be obtained by depressing that organ with the spatula instead of causing it to be protruded as in the ordinary examination.

Several unsuccessful efforts were made to seize the tumor during quiet respiration. I then directed him to make the *ah!* sound loudly and forcibly, during which I rapidly introduced the forceps and caught and severed the entire growth and pedicle from its attachments—voice returned at once.

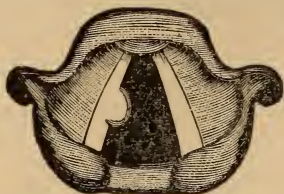
The following cut represents the growth and pedicle after removal, exact size :



CASE III.—SMALL PAPILLOMA OF RIGHT VOCAL CORD—REMOVAL—CURE.

Professor S. ; native of Germany ; age, forty-five ; principal of a large school for boys, consulted me for loss of voice in February, 1876. He stated that for several years he had suffered from a hoarseness, but about four months previous to consulting me, he became quite aphonic, and has remained so ever since.

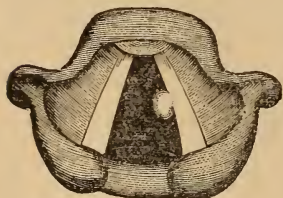
A laryngoscopic examination revealed upon the right cord and just anterior to the processus vocalis a polypus about the size of a small pea, overlapping the free edge of the cord and preventing approximation, thus accounting for the aphonia. The throat of this gentleman was capacious, well-developed, and the larynx could be entered without difficulty; a few days were occupied in overcoming the irritability of



the pharynx, when the forceps were introduced, the growth seized, crushed, and successfully removed at one sitting—voice returned immediately. An examination made over two years after the operation could detect no trace of the growth—voice excellent.

CASE IV.—SMALL PAPILLOMA ON LEFT VOCAL CORD—REMOVAL—CURE.

Patrick, æt. 48; occupation, porter; consulted me December 10, 1877, at the Metropolitan Throat Hospital, for chronic hoarseness, which had existed for over a year, at times quite aphonic. An examination disclosed a small papilloma on the free edge of the left cord, in its anterior portion, preventing perfect approximation.



No preliminary training was adopted in this case; the growth was seized and removed upon the first introduction of the forceps. Voice was restored at once, and he informs me that he sings without difficulty in his Sunday-school.

An examination a few weeks ago, and five months after the operation, could discover no trace of the growth.

CASE V.—LARGE PAPILLOMA ON BOTH CORDS—REMOVAL—IMPROVEMENT.

Jennie M., æt. 19; occupation, singer; consulted me at the Metropolitan Throat Hospital, April 3, 1878. She stated that

two years ago hoarseness came on slowly, and she was compelled to discontinue singing. Attributes the hoarseness to a severe cold.

An examination revealed a large papilloma on the left ventricular band, almost completely obscuring the left vocal cord; upon the right vocal cord was another covering the anterior third, and a still smaller one springing from the under surface of the same cord.



Several days were consumed in overcoming the irritability of the pharynx and the general nervousness of the patient, and, owing to the latter, three sittings were required for the removal of the mass. A small portion of that attached to the under surface of the right vocal cord still remained, but, as the improvement in her voice and breathing was so marked, she declined further operative interference for the present.

CASE VI.—SMALL CYSTIC GROWTH ON EPIGLOTTIS—REMOVAL —CURE.

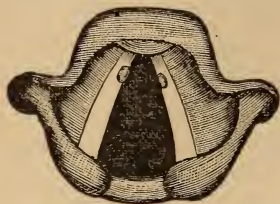
J. R., aged thirty-eight; occupation, tailor; consulted me at Metropolitan Throat Hospital, March, 1874, for sore throat. In addition to a follicular pharyngitis, I discovered a small cystic growth at the junction of the epiglottis with ary-epiglottic fold, right side. It was crushed, without difficulty, with Mackenzie's forceps. No return after several months.



CASE VII.—SYMMETRICAL OUT-GROWTH ON THE VOCAL CORDS—CURE.

Miss B., aged twelve; brought to me by her parents, in March, 1875, for hoarseness, for which she had been compelled to discontinue her singing lessons. Upon the anterior third of each cord I discovered a nodule, about the size of a very small pin

head, apparently of a fibrous character, and seemingly thoroughly



incorporated with the cord tissues ; approximation was scarcely interfered with, but the finer vibrations were. I did not deem instrumental interference prudent in this case, but explained to the parents that a cure

might be effected by topical applications, but that the treatment would be tedious.

For about two years, applications of *zinci chlorid.*, grs. xv to water one ounce, were made at intervals varying from five days to several weeks ; occasionally the solid nitrate of silver was applied, but I found the zinc decidedly more efficacious. The nodule has entirely disappeared from the left cord, and but a mere trace remains on the right cord. The voice is clear, and she sings without difficulty.

CASE IX.—ECCHONDROSIS OF LEFT SIDE OF THYROID—NO RELIEF.

J. H., aged thirty ; Irish ; consulted me at the Metropolitan Throat Hospital, at the suggestion of Dr. Moore, of Troy. About a year previous tracheotomy had been performed for laryngeal dyspnoea, which had suddenly become alarming ; since then has worn the canula ; has had syphilis.

An examination revealed a large rounded mass on the left side of the larynx, just anterior to the left arytenoid, and filling almost its entire cavity. I performed thyrotomy, and found that the tumor grew from the thyroid, very hard and firm, and, without doubt, of the very rare variety known as an ecchondrosis. I could make no impression upon it, either with gouge or knife, and attempts at removal brought on violent paroxysms of spasmodic coughing, although the patient was fully under the influence of ether.

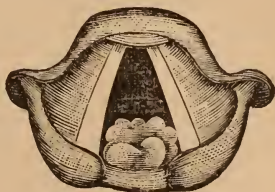
I saw and examined him about fourteen months after the operation ; apparently no change had taken place.

CASE X.—PAPILLOMATOUS GROWTH—POSTERIOR WALL OF LARYNX—OPERATION DEFERRED.

Mrs. B., aged thirty-seven ; German ; consulted me at the Metropolitan Throat Hospital, for complete aphonia, which had existed for several months. Slight dyspnoea was also present.

An examination discovered a large papilloma growing from the posterior wall of the larynx and filling the interarytenoid space and preventing approximation of the cords.

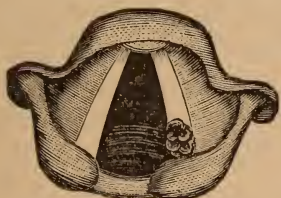
This woman was very nervous and timid, and as she was six months advanced in pregnancy, I deemed it prudent to defer operative measures.



CASE XI.—PAPILLOMA LEFT VOCAL CORD—IMPROVEMENT.

T. L., a German, aged forty-two ; consulted me February, 1878, at the Metropolitan Throat Hospital, for hoarseness and tickling in his throat, which he first noticed a little over a year ago ; his voice had the peculiar metallic ring so frequently observed in laryngeal growths.

A laryngoscopic examination revealed a papillomatous growth upon the posterior third of the left vocal cord, projecting but slightly over the free edge. The greater portion was removed without difficulty in three sittings, when he discontinued his attendance at my clinic.



CASE XII.—MALIGNANT GROWTH OF RIGHT SIDE OF LARYNX—THYROTOMY PERFORMED FOUR TIMES—RECURRENCE.

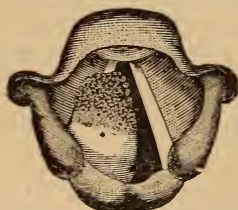
Mr. C., aged forty-seven ; occupation, farmer ; consulted me in October, 1875. He stated that about two years previous he first noticed the hoarseness, which increased until at the time of consulting me he was quite aphonic.

An examination revealed on the right cord, covering the middle and extending well into the anterior third, a sessile growth

which projected over the free edge of the cord and prevented approximation. At this time, I had no doubt from its general appearance that the growth was of a papillomatous character. I removed the greater portion with the forceps, after which I resorted from time to time to local astringent and caustic applications to destroy the little that remained.



In November, 1876, but a small portion remained ; he then informed me that he probably would not be able to visit my office for about one month. He did not return, however, until the following April, at which time a great change had taken place ; the growth had extended backwards and upwards, filling almost the entire right side of the larynx. I made no attempt at removal on that day, as he preferred waiting. He left intending to return within a week ; I cautioned him to lose no time in doing so, if his breathing became at all impaired. He returned in



about a month for treatment, at which time there was great dyspnœa, the growth had extended downwards below the right cord, producing considerable lessening of the laryngeal calibre.

After a consultation with several medical friends, I determined to temporize and attempt again the removal by the mouth. A large amount was taken out in this way, sufficient to fill a small homœopathic vial, but it was reproduced so rapidly that it seemed almost to increase under my eyes.

At this time the stenosis was so great that he breathed with difficulty, especially upon making the slightest exertion, such even as walking across my office.

Deeming it unsafe to defer tracheotomy any longer, on the 10th of June, 1877, this operation was performed at the Metropolitan Throat Hospital, immediately after which a thyrotomy, the growth extended downwards to the cricoid cartilage ; it was thor-

oughly removed, the cord destroyed, and the galvano-cautery freely applied to all the surface which had been covered by it. Two months later in August the operation of thyrotomy was repeated, again in October and March of this year, omitting in the last two the galvano-cautery and substituting a solution of zinc chlorid, grs. xxx to 3i aq.

The portions of growth removed by evulsion and also by thyrotomy were submitted to several eminent microscopists of this city for examination.

The first pronounced it an "hypertrophy caused by lymphoid infiltration." "There are no distinct characteristics of a new growth." But upon being told the clinical history of the case, called it a "small round cell sarcoma."

The second reported that it belonged to the class usually called "papilloma," while the third regarded it as a "mixed" growth of the variety known as "epithelioma-papilloma." "Such tumors are of tolerably frequent occurrence on the mucous membranes, and their prognosis is usually very good."

The severe and constant pain which the patient has suffered from for some months past, together with the infiltration of the surrounding soft parts, the caries of the cartilages of the right side, the rapidity of recurrence after thorough removal, and the excessive vascularity of the neoplasm, leave no doubt in my own mind of its malignant character. Whether sarcoma or epithelioma-papilloma I am not prepared to decide; but simple or ordinary papilloma it cannot be.

The non-engorgement of the cervical lymphatics, the excellent condition of his general health, the non-extension of the disease to the pharynx, left side of the larynx, or the trachea induce me to regard its malignancy as of a mild type.

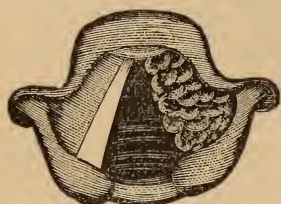
Removal of the larynx has been considered and proposed to the patient, but he declined an operation which, in his case at least, could not promise a prolongation of his days.

I shall perform thyrotomy at least once more in this case, and still again, should the circumstances justify it, as they hitherto have done.

CASE XIII.—LARGE PAPILLOMATOUS GROWTH, LEFT SIDE OF LARYNX.

L. R., aged fifty-nine; American; occupation, farmer; consulted me at the Metropolitan Throat Hospital, November 12th, 1874. He stated that hoarseness came about twenty-two months previous, but about eight months ago lost his voice entirely.

An examination revealed a large mass on the left side of the larynx, starting from base of epiglottis, partly covering ary-epiglottic fold, and reaching to the left cord, which was not visible.



The growth was evidently of a papillomatous character; there was dyspnoea from the stenosis. He left the hospital, promising to return for operation, but failed to do so.

CASE XIV.—CANCER OF THE LARYNX—TRACHEOTOMY—DEATH.

J. L., aged fifty-six; German; consulted me at the Metropolitan Throat Hospital, May, 1874, for loss of voice and pain in his throat, which had begun, as nearly as he could remember, about eighteen months previous.

The patient was quite aphonic, and suffering greatly from dyspnoea; no enlargement or engorgement of the cervical lymphatics.

A laryngoscopic examination revealed an irregular nodulated mass covering the entire left side of the larynx, from the base of the epiglottis to the sub-glottic region, and producing decided stenosis. There was no evidence of tuberculosis, nor was there a syphilitic history; however, he was given the benefit of the doubt, and specific treatment was fairly tried, without beneficial result.

The dyspnoea increasing, tracheotomy was performed to escape the fatal consequences of sudden spasm of the glottis. I had, also, decided upon removal of the larynx at a later period, the patient having given his consent, but, after the tracheotomy, he failed rapidly, and died on the sixtieth day.

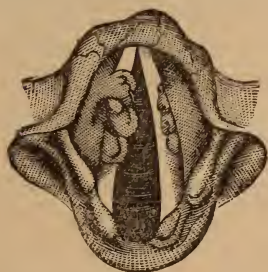
A post-mortem showed that the disease extended below the

cricoid, involving that as well as the other cartilages of the larynx.

The following cases were reported by me in the *New York Medical Journal*, for March, 1874. I have seen both patients quite recently, nearly five years have elapsed since the operations, voices are excellent, and no recurrence or trace of the growths.

G. S., aged thirty-one, native of Ireland, occupation laborer, sent me for treatment, September 18, 1874, by Dr. J. H. Pooley, of Yonkers (now Professor of Surgery in Starling Medical College, Columbus, Ohio.)

He stated that hoarseness had begun about four years ago. During the past six months it had increased, and, at the time of reporting to me, he was quite aphonic. On laryngoscopic examination, the papillomatous growths were seen, the larger covering the right vocal cord for nearly two-thirds its length, a portion of which was attached by pedicle to the right ventricular band; a small growth occupied the middle third of left vocal cord.



The operation was performed after three days' preliminary training, and completed at one sitting. A small portion of the pedicle by which the tumor was attached to the right ventricular band, and also part of the growth on the left vocal cord were left for a subsequent operation, in consequence of

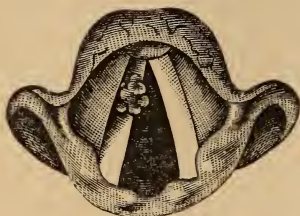
the hemorrhage which ensued.

The case was presented to the New York Laryngological Society three and a half months after the operation—voice perfect, and no return of growths.

CASE XVI.—H. J., aged thirty-eight; native of Germany; occupation merchant, has suffered from hoarseness for two years, at times scarcely able to speak above a whisper.

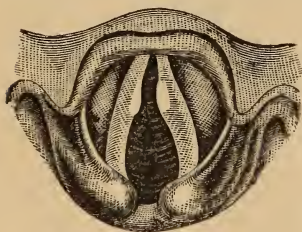
A laryngoscopic examination showed a papillomatous growth, on the right vocal cord, about the size of a large pea, and extend-

ing from the floor of the ventricle to the free edge of the cord, over which it projected, preventing approximation.



This patient's larynx was very narrow, and extremely sensitive to the introduction of instruments. The entire growth was removed after several trials, excepting a portion about the size of a pin's head, which disappeared without further operative interference.

In the same number of the *New York Medical Journal*, I reported a case very similar to Case VII. She was under treat-



ment for six months, there was marked improvement in the voice at the expiration of that period, but scarcely any diminution in the size of the nodules. Another case of precisely the same character has quite recently consulted me, and is at the present time under treatment.

Since writing the above, I have performed the fifth thyrotomy upon Mr. C. (case XII.) The operation was performed at the Metropolitan Throat Hospital, July 9, 1878. No anæsthetic was given, the parts were very vascular, and the hemorrhage profuse. A larger quantity of growth was removed than in any of the preceding operations. Zinci chlorid. grs. xxx to $\mathfrak{3i}$ aq. was freely applied to the surface after its removal. At the time of writing, July 18, the patient's general condition is excellent. No recurrence of the growth has as yet taken place.

The following interesting case has quite recently come under my care :

CASE XVIII.—LARGE PAPILLOMA FILLING ANTERIOR COMMISSURE AND COVERING ONE-THIRD OF RIGHT CORD—HOARSE FOR THIRTY-ONE YEARS—REMOVAL—CURE.

W. N., aged fifty-one years ; native of Scotland ; occupation,

printer. Consulted me at the Metropolitan Throat Hospital, July 9, for loss of voice. He stated that thirty-one years ago, while a soldier in the British army, he contracted a severe cold from exposure on the march, since which time he has been almost completely aphonic. In 1850 he consulted Dr. Hughes Bennett, of Edinburgh, who suspected the presence of a polypus, and introduced a sponge probang charged with a strong solution of argent. nitras. He subsequently consulted another eminent Scotch physician, who advised a mercurial course for the hoarseness. This the patient declined.

For the past ten years he has had no treatment except syrups, cough mixtures, and troches.

An examination with the laryngoscope revealed a very large papilloma filling the anterior commissure above and below the insertions of the cords, and covering completely the anterior third of the right cord.



Without preliminary training the forceps were introduced, and about one-half of the mass removed. The remainder was taken away in two subsequent sittings. Voice excellent.

53 WEST THIRTY-FIFTH STREET, NEW YORK.

ART. II.—*Ischæmia of the Retina*. By THOMAS R. POOLEY, of New York, Clinical Professor of Ophthalmology, Starling Medical College. Read at the meeting of the New York State Medical Society, February, 1878.

It is my purpose, in this short paper, to make a few observations upon a disturbance of the circulation in the retinal blood-vessels, which occurs in the course of different diseases, in which the force of the general circulation is very much depressed. I have been led to do this because of the opportunity which my practice has afforded me of seeing two cases which illustrate very well what I want to say, and also on account of the interest

which the subject seems to have in connection with general medicine.

The first accounts of the kind which we have, were contributed to literature by Alfred Græfe,* Rothmund,† Heddäus,‡ and Secondi.|| The characteristic symptoms in all of these cases were: Extreme anæmia of the retina; attenuation, with an almost bloodless condition of the arteries; hyperæmia, with irregular distribution of blood in the veins; the optic disc either pale or normal, with its edges somewhat ill-defined; normal tension, and refractive media clear; blindness, sudden in its onset, affecting both eyes, and complete.

The first case of this kind which I saw, in February, 1875, was a young man, twenty-four years of age, who was sent to me by my brother, Dr. J. H. Pooley. The patient had been ill for some weeks with malarial fever; for about one week before I saw him his most distressing symptoms had been frontal headache, and weakness of the lower extremities. A few days before he came to consult me, while walking home from his place of business, he lost his sight all of an instant. When I examined him, his condition was as follows: The tension of the globes normal, conjunctivæ exceedingly pale, both pupils widely dilated, without any response to light, and only bare perception of light. The note of the ophthalmoscopic examination made at that time, taken from my case book, is: both disc margins somewhat indistinct, arteries small and empty, in places seem to be covered by exudation, veins irregularly dilated. At this time I did not think of the importance of the general condition of the patient in causing the blindness, and was somewhat at a loss to account for such complete blindness, with such insignificant changes in the background of the eyes.

The subsequent progress of the case, however, cleared up the

* Græfe's Archives, viii, 1, 143.

† Klinische Monatsblätter für Augenheilkunde, 1866, p. 106.

‡ Ib., 1865, p. 235.

|| *Caso di Amaurosi per ischæmia della retina, etc.*, Turin, 1864.

diagnosis very fully. The patient was badly frightened, as well he might me—he had been suddenly stricken blind, and had remained so for a week when I saw him. He was extremely pale, especially the mucous membrane of his lips, his pulse was rapid, and his heart-beats frequent and irregular, although weak.

I advised him to enter the Ophthalmic and Aural Institute, which he did the same day, and I was thus afforded the opportunity of following his case to its very successful termination. He remained in the hospital for about a week, during which time he was treated by Heurteloup's leech, bin-iodide of mercury, and kept in bed in a dark room.

Dr. Knapp saw him in consultation with me, and recommended paracentesis of the anterior chamber or iredeotomy. We decided, however, to wait a day or two, and then, as sight began to return, abandoned the project. February 5th, he could count fingers at about twelve inches, best with the right eye. On the 9th, vision was still better, and he was discharged from the Institute. After this date he came to my office. His sight improved up to 20-20 with either eye, and the ophthalmoscopic appearances were quite normal.

The second case was that of a young woman, twenty years of age, unmarried, but living with a man as his mistress, who came under my care at the New York Ophthalmic and Aural Institute. She said that nine months before she had a miscarriage, and, ever since this accident, had suffered from severe hemorrhage at each menstrual period. A few days before she applied for advice, she had a very severe hemorrhage, in which she lost a quantity of blood, became much prostrated, and suddenly lost her sight completely in both eyes. While on her way to the dispensary, sight as suddenly returned in the right eye, but she still remained blind in the left. She was deathly pale, and could hardly walk, even with the help of her reputed husband and a female friend who accompanied her. She fainted once or twice while undergoing an examination. Both pupils were widely dilated, the left most so, only the right responded to light. With the right eye

her vision was 20-200, while with the left she could barely discern light from dark. The tension of the globes was normal. Ophthalmoscopic examination showed pallor of the discs, and extreme diminution in the caliber of the arteries. The veins were, as in the other case, tortuous and irregular.

This condition was most marked in the blind eye. As the patient declined to enter the institute, I treated her at her home. She was directed to remain perfectly quiet in bed, to live generously, drink a bottle of red wine daily, and a prescription for iron and strychnine given. In spite of the fact that she disregarded my strict injunction to keep quiet, she improved very rapidly in general health, vision improved in the right eye, and soon returned in the left. She was able to return to the clinic in a few days, and was soon discharged from further treatment with excellent sight in both eyes. I advised her to have an examination made to determine the cause of the recurring hemorrhages, to which she consented, and my friend, Dr. Amway, kindly made the examination. He found retained placenta and advised curetting. The operation was, however, neglected for some time, and three weeks later she came to my office, saying that she had had another severe hemorrhage, and that her sight was again very much impaired. She was much alarmed, and had again become extremely anæmic. Her lips and conjunctivæ were very pallid, her pulse and heart's action feeble. The pupils were moderately dilated, responded but slowly to light, and the retinal arteries again markedly constricted. V. R, 20-50, L, 20-80. There was no change in the retina or choroid. She was now very willing to have the operation proposed by Dr. Amway performed, and the next day he scraped out the uterus, removing some fragments of retained placenta and clots. She was put upon a good diet, stimulants, and tonics. The hemorrhages entirely ceased, and when I examined her eyes, vision was normal and the arteries had filled to their normal dimensions.

In looking over these two cases there seems to be no doubt but that they must be considered as coming under the same category

as those first described by Alfred Graefe and others, and to which he gave the name of *ischæmia retinæ*. In the first case I was in error as to the diagnosis, and considered the blindness due to neuritis optica, and as the changes in the intra-ocular end of the nerve were insufficient to account for the blindness, I thought there must be a bi-lateral retro bulbar neuritis, as Von Graefe had inferred existed in such cases. The speedy improvement of sight, however, made me retract this opinion, and both Dr. Knapp and myself considered it to be a case of *ischæmia* of the retina, when we discussed the propriety of paracentesis or iredec-tomy. I will speak farther on of the rationale of such operative procedures in this disease. It seems to me now, and will at once occur to my hearers, that the plan of treatment in so far as the abstraction of blood and the use of mercury were resorted to was irrational, and that the patient got well in spite of, rather than as a result of the treatment. In the second case it will be observed that I pursued a directly opposite course of treatment, giving tonics, stimulants, and a generous diet. If the theory advanced by Alfred Graefe (l. c.) be correct, that in this affection the cause of blindness is due to an insufficient amount of blood being sent to the retina, the faint and rapid contractions of the heart being insufficient to overcome the normal but proportionately increased intra-ocular tension, then the proper course of treatment, so far as medication is concerned, is clearly enough indicated. The argument in favor of this theory is strengthened by the results obtained by Graefe and others, by operations which diminish the tension of the eye-ball such as paracentesis and iridectomy. Never was the correctness of theory more clearly demonstrated by practice than in the result obtained by these operations.

In Graefe's case, after all other means such as mercury, blisters behind the ear, artificial leeches to the temple, and so on, had failed, an iridectomy made upon the right eye ten days after the complete loss of sight proved successful. The object in performing this operation was by diminishing the intra-ocular pressure,

thus to obtain mechanically, a greater filling of the vessels *ex vacuo*. Paracentesis of the anterior chamber was performed on the left eye. The effect was most marked and interesting. Twenty hours after the operation, the patient could, with the right eye, see movements of the hand, and in two days count fingers up to twenty-two feet, and the pupil acted more freely. The tapping of the left eye having proved ineffectual, it still remaining blind, iridectomy was performed upon it on the second day. This was also successful. The ophthalmoscopic symptoms were equally favorable, for, on the third day after the second operation, the retinal arteries were found to be normal, as were also the veins, excepting a slight irregularity in their fullness. In three months the sight was perfectly normal in each eye. In Rothmund's and Secondi's cases (l. c.) paracentesis of the anterior alone proved successful. Knapp* has also more recently reported a case of the same sort. In this instance the blindness occurred in a child who had been suffering from whooping-cough, and sight was restored by paracentesis of the anterior chamber in both eyes. The patient died, however, from lobular pneumonia; and Knapp mentions that Professor Loomis, with whom he saw the child, stated that he had seen several cases in which blindness occurred in whooping-cough, and all of them died of lobular pneumonia. Knapp describes the ophthalmoscopic appearance as those of extreme ischæmia of the retina, but the constriction of the arteries was much more than in the other cases to which we have referred. In the left eye only the main branches were visible, and they were as thin as fine threads; in right eye, he says, I could discover no arteries at all. The veins in both eyes were scant and thin; more so in the right than in the left.

Knapp thought that the ischæmia was possibly caused by an hemorrhagic effusion between the sheaths of the optic nerve, or, more probably, by the general anæmia, and the weak cardiac action of the reduced patient. He proposed nutritious diet, with some coffee and tea, and dilute champagne; and if, within

*Archives of Ophth. and Otology, IV, No. ii, p. 448.

twenty-four hours, the condition of the eye did not improve, paracentesis of the anterior chamber.

As this did not avail after twenty-four hours, the operation was done in both eyes. The next day both pupils were promptly responsive to light, and the retinal vessels better filled. Arteries had become visible in both eyes, the vessels were numerous, and the color of the discs better than the day before. The patient had seen the light of the window, and several times pointed to its direction. From day to day the ophthalmoscopic appearances and sight improved, but the vessels and discs did not quite return to their normal condition. Most unfortunately, the little sufferer was not to reap the benefit of this skillful and successful treatment, and died, six weeks after the operation, from lobular pneumonia.

In neither of my cases was it necessary to resort to operative interference, although in the first one I should not have hesitated to have done so had not improvement begun as promptly as it did. In the second case, the condition was hardly extreme enough to suggest the necessity for it. And this leads me to speak of what I believe to be the proper course to pursue in such cases. It is, indeed, already anticipated in part by the advice offered by Knapp in his case.

The patient should be kept absolutely quiet, so as to conserve the heart's force as much as possible, and the recumbent posture is best, because it favors the flow of blood towards the head. It might be of additional value to lower the head somewhat, as we do to restore a person from a fainting fit. The diet should be of the most concentrated and nutritious kind, and stimulants, such as coffee, tea, and alcohol are to be freely given. This plan should have a fair trial before any operation is decided upon; and for a guide as to how long we may expect to derive benefit from it, we should most carefully, and at frequent intervals, study the condition of the retinal arteries with the ophthalmoscope. In such extreme attenuation, and even absence of blood vessels, as recorded by Knapp, long delay must not be thought of. In my

cases, on the contrary, the temporizing was fully justified by the results. That, on the other hand, the operation can be delayed too long there is no doubt. Heddäus (l. c.) regrets, in his case, not having operated as secondary atrophy of the optic nerve ensued, and the patient remained blind.

If an operation be determined upon, preference should, I think, be given to paracentesis of the anterior chamber, because it does not disfigure the appearance of the eye as iridectomy does; and, if it prove ineffectual, iridectomy can still be made, as it was in Alfred Græfe's case. The operation, too, can be repeated as often as is necessary to keep the vessels filled. It is simple, and, when well performed, without any danger for the eye. Such seem to me the indications clearly to be met, and the means of doing it. Nor should we consider the good result obtained by judicious therapeutical means inferior to those which result from operation, although the latter may appear the more brilliant.

It yet remains to say some words as to the plausibility of another mode of accounting for the ischæmia of the blood vessels than the one already offered. Von Græfe* objected to this way of explaining the blindness in these cases. He says: "In ischæmia a continuous circulation, so far as my experience goes, remains obvious. I cannot account for the total abolition of the function of sight by the sole fact that the supply of blood is limited, which the vessels, being pervious, cannot be more than moderate." He thinks a retro-bulbar neuritis is possible. Stellwag, who also formerly accepted this explanation, in the fourth edition of his book, explains the loss of sight by a spasm of the blood vessels.

Whether the retinal ischæmia in these cases does not depend upon the simple reduction in the propulsive force of the heart's action, or upon an effusion in the sheaths of the optic nerve, cannot be said to have been definitely settled, nor will it be unless

* On Neuritis, and Certain Cases of Fulminant Blindness, *Archives* xii, pages 113, 144.

an opportunity for an autopsy should be afforded. It is much to be regretted that Knapp did not obtain an autopsy in his case, for had an extravasation of blood into the nerve sheaths been found, it would have been important enough, as showing that the same compression might be assumed in inflammatory exudation ; while, on the other hand, its absence would have gone to support the other theory. But, as Knapp says (l. c.), "the occurrence of ischæmia in a case like that reported by Rothmund, where the pulse is full and the sounds of the heart are normal, is not to be explained ; but if, on the other hand, Von Græfe's opinion is correct, the successful treatment of these cases by iridectomy and paracentesis is surprising." The truth may be sooner arrived at, if those in general practice, who are more apt to see such cases, will afford the specialist opportunities for post-mortem examination.

ART. III.—*Clinical Notes in Obstetrics and Gynecology.* Read before the Yonkers Medical Association at its stated meeting, February 15, 1878.
By EUGENE PEUGNET, M.D., Fordham, New York.

PART II.—PUERPERAL INSANITY.

[Continued from page 227.]

This disease, a disordered state of the mind, usually a sympathetic condition, or a reflex action of pregnancy and its sequelæ, may still depend upon a central organic lesion, the pregnant state being to my mind the exciting cause. Still specialists will probably claim that the insanity thus developing itself is a mere coincidence. No doubt this may be true in the majority of cases ; yet, I am not prepared to admit it as a rule. For in many cases of mania terminating fatally, central lesions are wanting, and in others those found are the result of intercurrent diseases, manifesting themselves subsequent to the development of the insane neuroses. Again, we find central lesions extensive in character, which do not give rise to insanity. Therefore, if the specialist asserts that the *adverse* of my *proposition* is *correct*, I may with equal force claim the *accuracy* of the *converse* of his *assertion*,

as *a priori* reasoning, I take it for granted, unless based on absolute fact, is apt to be double-edged. Nevertheless, I firmly believe that practical and clinical observation will fully sustain me. The *raffinement du diagnostic*, I must leave to the specialist.

Puerperal insanity is apt to manifest itself at any stage of the above-mentioned condition ; either during gestation, after parturition, or pending lactation, although it occurs more frequently subsequent to parturition and may declare itself at any period of lactation. At times, cases present themselves, especially pending pregnancy, which severely and sorely task, not only the patience and forbearance of the immediate household, but all the resources and responsibilities of the family physician. For in some cases, it is almost impossible to distinguish between the insane diathesis and eccentricity of character, which this state unfolds. The vexatiousness of woman's nature, if I may so express myself, also develops itself in at times an appalling manner.

The symptoms manifest themselves in various phases : hysteria, jealousy, hatred, morbid affection, obscenity, etc. The manifold forms of insanity thus present themselves : mania, melancholia, delusional insanity, and even, although more rarely dementia.

The prognosis in these cases depends upon the predisposing cause, for I take gestation and the puerperal condition as the exciting. If there is an organic lesion or an inherited tendency, it will be unfavorable, although in the latter instance the insane diathesis may subside, but it then generally lies latent, manifesting itself from time to time. Should it be simply a reflex condition, or the result of either anæmia or hyperæmia pending gestation, subsequent to parturition, or during lactation, it would be favorable. However, should there be albuminuria a fatal prognosis may almost unequivocally be given.

Of the latter, I have had but two cases under my personal observation, although I am conversant with four others in which the diathesis manifested itself on the completion of parturition, at least forty-eight hours subsequent to it, and all terminated fatally within a month from the inception of the neurose.

CASE XXIII.—A primipara, at Bellevue Hospital. The insanity, in the form of mania, developed itself on the sixth day, and terminated fatally in the third week. The urine was highly albuminous, and contained granular casts.

CASE XXIV.—A young and highly gifted married lady, a primipara whose trials in life had been unusually acute. I mention this, for the mania first declared itself by delusions in reference to her sufferings. She had had a normal labor, and everything seemed to progress favorably until the fifth day, when her pulse rose rapidly to 130, and accompanied with delirium, which first led me to suspect septicæmia. The next, sixth day, the mania developed itself. Her urine was highly albuminous, and; in consequence thereof, induced Dr. Thomas, who saw her in consultation with me, to give an unfavorable prognosis. She sank into a typhoid condition, and died on the sixteenth day.

CASE XXV.—Illustrates the disease occurring during lactation and at the inception of gestation, *induced by anæmia*, due to the coexistence of the two conditions. This patient, a young married lady, gave birth to her third child on the 10th of August, 1869. Everything progressed favorably, and, as on the two previous occasions, nursed her child. There had been about two years interval between the births of each of the three, and no trouble save an attack of pneumonia, prior to the birth of the second one. About the first of January, 1870, she began to complain of symptoms of amblyopia and amaurosis. Not finding any evidences of albuminuria, attributed the evolution of the symptoms to lactation, and administered tonics in various forms. She did not improve, became hysterical, finally hypochondriac, and various delusions began to manifest themselves. I questioned her as to the possibility of pregnancy, but was met with an emphatic denial by both herself and husband. On the 2nd of March, believing there might be some uterine difficulty, I made an examination, and found but a superficial cervical erosion; the uterus was evidently enlarged and slightly anteverted. Suspecting pregnancy, I insisted upon what I had previously advised—the

immediate weaning of the child. This was done, and on the 19th she felt quickening. Her health then began to improve, all the unpleasant symptoms rapidly subsided, and, on the 28th of July, 1870, an interval of ten months and eighteen days, gave birth to her fourth child. The lactation of the last was continued until it was ten months old, and three years subsequently she was still enjoying good health.

CASES XXVI-XXVII.—A mother and daughter; Irish; both occurred subsequent to parturition. The mother, immediately after the birth of her first child, an illegitimate one, was taken with symptoms of mania, and removed to an asylum. Two years subsequently married, and, in 1863, a few weeks after the birth of her second child, was taken with symptoms of mania, and, in conjunction with Dr. Bathgate, I sent her again to an asylum; she recovered in a few months, and has had no attack since then. Her eldest daughter, in her twenty-second year, gave birth to her first child. The parturition was a normal one, and lacteal secretion, on third day, profuse. On the fourth day, symptoms of nymphomania manifested themselves, which rapidly degenerated into dementia. In conjunction with Dr. Charles F. Rodenstein, sent her to an asylum. She remained there three months, then returned home, and, about two years subsequently, gave birth to her second child, which event had no evil sequences. In both of these cases the intellect is of a low grade.

CASE XXVIII.—Manifested itself during lactation. A multipara gave birth to her third child on the 19th of September, 1865, and nursed it. January 2, 1866, she complained of pain and fullness in the vertex; suddenly threw her child from her. I gave her bromide of potassium in full doses, applied leeches to the mastoid processes, and blisters to the back of the neck, which afforded her relief. However, these attacks continued to recur at intervals, became more and more frequent. She took an intense dislike to all her children, and, on several occasions, threatened them with a knife. This unfortunate woman would, at times, recognize her condition, and, feeling these attacks coming on,

would call to her husband to take the children away from her. When closely questioned, always complained of a sense of fullness at the vertex. There was no albuminuria, no evidences of uterine disorder, or of anæmia; on the contrary, she was plethoric. On the 18th of January, 1866, by phlebotomy, I took ten ounces of blood from the median basilic. January 28th, eight ounces extracted from opposite arm. The attacks then subsided. February 28.—Slight recurrence of symptoms; eight ounces more of blood by venesection. From that time she continued to improve, and has enjoyed good health since. There is no doubt of the existence of an insane streak in the family.

CASE XXIX.—Developed itself during gestation and continued for five months subsequent to parturition. She had had previously two slight attacks: the first in the second week after the birth of her second child, and the third subsequent to the birth of her third child, at about the same period. With the fourth and fifth she had no trouble. In the second month of her sixth pregnancy, symptoms of insanity manifested themselves, especially by delusions as to her husband's fidelity, undue jealousy, and at times uncontrollable fits of temper towards those surrounding her, sometimes terminating in actual acts of violence. These continued without any abatement until parturition; on the second day, subsequent to it, symptoms of acute mania began to appear, and was therefore compelled to remove her child. On the fifteenth day her condition was such that it became necessary to remove her to an asylum. She was aware of my intentions, and went willingly, for with all her delusions her intellect appeared to be unimpaired. Here the change of air, the wholesome restraint, and with the internal administration at night of chloral hydrate and bromide of potassium, soon effected an improvement. Cod liver oil was given to her, and in about four months was able to return home. Although there are still some vagaries and eccentricity, yet she is able to take charge of her household. In this case the family insane diathesis is marked, and has developed itself in several of its members.

CASE XXX.—Is a remarkable one. The subject of it a young married lady, twenty-eight years of age. Her father died of uræmia from contracted kidney. Her mother of carcinoma of the breast. She had always enjoyed good health until March, 1866, when in the eight month of her second pregnancy, she began to fail. A careful examination led me to conclude that the fœtus had perished. March 15th, taken with labor pains. March 16th, A.M., gave birth to a fœtus dead about three weeks; extensive fatty degeneration of the placenta. She then improved rapidly and enjoyed good health until August 7, 1866, when she was suddenly attacked with supra-orbital neuralgia of right side, also complete loss of sight of right eye; on the eighth, neuralgia had entirely disappeared, and with it, return of sight. August 14th, recurrence of neuralgia in right supra-orbital region with loss of sight in both eyes. The 15th, neuralgia subsided, with return of sight in left eye, but absence of vision in *right* eye. August 17th, I made an ophthalmoscopic examination: *Right eye*, there was a cloudiness of the retina; the contour of the optic disc ill-defined; the central retinal artery gorged; the veins enlarged and tortuous, but no evidences of extravasation or exudation beneath the retina. *Left eye*: optic disc normal, but evidently an anæmic condition of the vessels of the retina. Diagnosis: neuro-retinitis of right eye. Treatment: proto-iodide of mercury, iodide of quinine, extract of conium, and counter irritation in right temporal region. August 23d, Dr. Gescheidt saw her in consultation, diagnosis acquiesced in. September 4th, Dr. C. R. Agnew in consultation: diagnosis confirmed and change of air to a non-malarious district prescribed. September 18th, summoned to Berkshire, Massachusetts. Slight return of neuralgia, sight of left eye impaired. The ophthalmoscopic examination revealed a more anæmic condition of the retinal vessels of right eye, and a hyperæmic condition of left retinal vessels; she then returned home. October 3d, consultation with Dr. Brown Sequard. The Doctor thought that the optic lesion and a slight loss of power of right side, detected by the dynamometer, indicated a cerebral lesion

near the optic commissure. October 4th, consultation with Doctor Alonzo Clark, who could not detect any evidences of cerebral lesion, save in the existence of strabismus, which in itself was not an evidence of any. The patient's general health continued good from this time forward, the urine had been and was carefully examined from time to time, both by Dr. Austin Flint, Jr., and myself, the examinations were always negative as to any evidences of disease. December 22d, Dr. Agnew reports: "She still counts fingers in the supero-temporal portion of right eye, and reads No. 1 Jaeger's test type with left eye. There are signs of considerable anæmia of the right retina and optic nerve, as though all congestion, such as we formally saw, had passed and been followed by a diminution in the caliber of the arteries. I do not know how to explain her case except upon the supposition of a tumor. Time alone can clear up the etiology." March 17, 1867, general health has been good since last report; consultation with Dr. Noyes: "*Status præsens*, neuralgia right frontal region chiefly, also extending to left side and vertex; slight tapping with fingers produces considerable pain; same amount of tapping produces no pain elsewhere. *Left eye*: vision 30-20; visual field perfect; refraction normal; pupil moderate size and contracted; optic nerve, capillary congestion; retinal vessels normal size; nerve papilla, decided prominence; no infiltration of retina; nerve border well-defined. *Right eye*: pupil medium size and contracted; vision, mere perception of light; visual field much contracted on its periphery, reduced to a narrow space directly in front; optic nerve very anæmic, slate grey color; lamina cribrosa, extremely distinct; veins full varicose; arteries slightly diminished in caliber; papilla extremely prominent, unable to find infiltration of retina. These signs indicate precedent neuro-retinitis, and the present condition being atrophy. Diagnosis: cerebral disease, probably tumor in right hemisphere."

In view of the above-mentioned facts, I cautioned her husband against pregnancy, and warned him of its danger. Her health continued much the same, and did not interfere with her usual

avocations. May 8th, consultation with Brown Sequard. The doctor made the following diagnosis, as the result of his own examination, and with the above-mentioned description of the eye : A cerebral tumor situated anteriorly to the optic commissure, possibly tubercular, possibly involving the nerve itself, but at all events compressing the right optic nerve, on the distal side of the commissure, for if it were on the proximate side, between the commissure and the origin of the nerve or optic thalami, both eyes would have been involved.

January 15th.—Summoned to Berkshire, in consultation with Dr. L. S. Adams. She had been suffering for several days from persistent nausea and vomiting. As there were no evidences of either cerebral or of gastric disease, both the Doctor and I suspected pregnancy, but the positive denial we were met with, and a careful vaginal, rectal, and bimanual examination failing to give any evidences of a gravid or diseased uterus, we were obliged to fall back on sympathetic vomiting from the suspected cerebral lesion. The matter vomited consisted of viscid dark green mucous. The administration of food by the mouth was discontinued. Enemas of beef tea, milk, and eggs alternately administered, and bismuth powders at intervals. June 27th.—Vomiting has been persistent since my preceding visit. The microscopic examination of ejecta negative. Tongue clear and smooth. Pulse, 100. Ordered hydrocyanic acid at intervals. Tinct. of opium in nutrient enemas. Bowels to be moved from time to time by laxative enemas. July 4th.—General condition same as on last visit. Hydrocyanic acid had been discontinued since the 29th, as she complained of sharp and burning pain, vomiting, and nausea after taking the acid. Carb. of soda and gum arabic water had been administered to her ; she threw up the third teaspoonful, but vomiting less frequent, thinner and more yellow ; bowels then moved by means of a laxative enema. 30th—Kept down seven or eight spoonfuls of broth. Ordered tincture of iodine to be freely and frequently applied to epigastrium until marked counter-irritation was induced, and to now try the regular

administration of beef tea and thin gruel, in small quantities. July 17.—Dr. Adams writes as follows: “Tells me he has kept you informed of symptoms, etc. She seems to be progressing favorably since you were here, with some variations, caused, perhaps, by experimenting, with my approval, in some more solid nutriment. The increase of nausea the two past days, I think, is partly owing to neglecting the regular doses of beef tea and rice gruel. I gave her this morning a dose of the bismuth and morphine, with the addition of a teaspoonful of pulv. charcoal, directing a repetition every eight hours, and sooner, if the nausea returned. It is now 4 P.M., and she has been very quiet since taking the medicine. Some days she has appeared more comfortable and cheerful than at any time before. She is now on the regular repetition of the beef tea and chicken tea, and, I hope, will be again progressing satisfactorily.” Thursday, 18th.—“I directed the same medicine this morning; will omit the charcoal unless the effect seems favorable. The epigastric region was severely blistered by the iodine, but is now almost well. I think I will direct a reapplication, enough to produce moderate effect on the skin.” July 21st.—Having been sent for, I found her general health much improved, but symptoms of aberration of mind had begun to manifest themselves, especially by undue jealousy of her husband. These were first noticed on the 13th of July. July 25th.—Received the following statement of her condition: “Partial deafness manifested itself on the 22d inst., and has, with intermissions, been since increasing. She complained of some oppression, and her eyes had a more fixed look; sleeps well. On the 24th inst., memory affected; did not know where she was or had been; remembered nothing about persons, except naming them; thought she had been staying at different places this summer; did not remember about giving up her home, etc. All questions were put, and felt dreadfully about the possibility of losing her memory; was most anxious to know if she had been out of her mind during her sickness; the duration of her sickness she had no idea of. About 11 P.M., she was restless, com-

plained of want of lights, etc., then fell asleep, and slumbered heavily. Slight want of memory this morning; was moved to couch; wanted to know if she was dying; spoke of her child's future, etc. Has taken nourishment regularly." This condition of the mind continued, with some variations, till August 13th, when called to her again. I found her very much in the condition before mentioned, but able to sit up. As the menses had not made their appearance since May, I again made a uterine examination, and the uterus was undoubtedly enlarged, but no other evidences of pregnancy detected. Advised her return to the city as soon as her health permitted of it. She came to town on the 15th of September. September 18th.—Found her general health much improved, but aberration of the mind complete, with a tendency to dementia. September 28th.—Detected placental murmur and foetal heart. She was unaware of her condition. October 7th.—Dr. George J. Elliot, in consultation, confirmed my diagnosis of pregnancy. February 1, 1878.—Attended by Dr. Foster Swift, and delivered of a healthy child, a girl. February 29th.—At a consultation with Drs. Hammond, Flint, and George T. Elliot, it was decided to remove her to an asylum. On the 18th of March, 1868, was admitted to the asylum. "*Status præsens*: Appears to have lost her memory. Is childish and silly. Remembers things that occurred in childhood, but has entirely lost the memory of her married life." In March, 1869, I saw her at the asylum. The dementia was more marked, yet there were no symptoms of paralysis, which developed themselves subsequently. The condition of the eyes was the same. Complete loss of sight in right eye; vision good in left eye; yet, some time afterwards, it was believed by some of her attendants that she had recovered her sight sufficiently to count fingers. This illusion can be readily understood, as at the last ophthalmoscopic examination, although the optic nerve was atrophied, it was found that there was still a perception of light, and the shadows, with intervening spaces of light, might still have caused a cloudy impression on the vision of the patient, as well as on the minds of

the physicians who witnessed the phenomenon, and led them to firmly believe that she had actually counted fingers. Therefore, out of respect to them, I offer the above explanation.

The notes kept of her case at the asylum were, I regret to say, extremely incomplete and carelessly recorded; therefore I will winnow them cautiously. "May 9, 1871.—After taking a ride in a carriage, complained of pain in the back. The slightest jar appeared to be painful. In walking across the room, kept her hand to her back. Facial neuralgia, and a cold. May 10th.—Complete and sudden paralysis of right side, but no anæsthesia. Five weeks later, the left side became similarly affected. The flexor muscles began to contract permanently. The application of electricity (current not mentioned) caused very painful involuntary contractions, and its use discontinued. Several bed-sores formed very rapidly. Did not complain of any pain in head. Some dilatation of right pupil. She became very much constipated and emaciated. The bed sores increased in number, notwithstanding the use of a water bed. Morphine, quinine, brandy, and beef tea were freely administered to her to allay her sufferings, and sustain her. January 5, 1872.—P. 110, T. 98½. Subsequent to this date a cough, with considerable dyspnœa, manifested itself. The head became rather more drawn back, and she finally died on the morning of the 10th of February.

Sectio cadaveris, by Dr. E. C. Seguin, eleven hours after death: Rigidity of limbs not extreme. Knee joints stiff, and fingers of both hands firmly contracted. Vertebral sheath contains an unusual amount of fluid, some three or four ounces. On removal of calvarium, its inner surface, as well as the external surface of the dura mater, were found to be normal. Dura mater normal. Convolutions of the anterior lobes of cerebrum smaller and narrower than natural. Slight depression of left anterior lobe, near the median line, which amounted to a flattening. Superficial veins of hemispheres normal on left side, and full on right side over the middle portion of cerebrum. Small amounts of sub-arachnoid effusion, limpid. Pacchionian bodies few in number.

Superior and longitudinal sinus: In middle and anterior portions, for a distance of four inches, is a firm coagulum, not blocking up the calibre of the sinus, excepting at its posterior end, where it presents a bulbous extremity of recent coagulum, and large enough to block the vessel at that point. The firm coagulum sends branches into the lateral veins. The lower part of the longitudinal sinus and sinuses leading into it are filled with large recent coagula. Bones of base of skull normal.

Spinal Cord.—No pathological products in dorsal or lumbar portions of the posterior surface, except a few bony plates, so called. Anterior surface equally normal, nearly free from bony plates, very few and infrequent. Section at about the level of the sixth cervical vertebra shows cord to be firm, and in the right half a marked yellow line of the lateral columns. Section of mid dorsal region shows the same yellowish appearance in right lateral column. Section through lumbar enlargement shows nothing abnormal to the naked eye. Section one inch below the olivary bodies shows a yellowish reddish alteration in right anterior lateral column. Section through the lower half of the pons varolii shows a flattening of the left half of the pons. Roots of the hypoglossus normal, also the nerves of the medulla. The sixth, seventh, and eighth pairs of nerves normal. In the vertebral arteries, a recent coagulum, coats healthy. The sections of the cord show central *myelitis*, with formation of cavities.

The lobes of the cerebellum, apparently symmetrical convolutions of central parts, show no lesions.

Base of the Brain: left olfactory bulb normal; right one slightly torn, but normal. Left optic nerve normal; *right optic* nerve translucent and *atrophied*. The third, fourth, and fifth nerves normal. Circle of Willis: the basilar and posterior cerebral normal, and contain recent coagula. The posterior communicating pervious. In the branches of the anterior and middle cerebral only old and black clots exist, which quite fill up the calibre of the vessels. The right internal carotid is blocked up near its terminal bifurcation by a whitish clot; the left internal

carotid precisely the same. The white, firm, and old clots in both carotids end before bifurcation. The coats of carotids and branches are apparently normal. No softening about any part of the base. No patches in the convolutions. The horizontal sections of the hemispheres, down to the ventricles, show no lesions of either gray or white matter. Ventricles contain hardly any fluid. Foramen of Monro largely dilated. The floors of lateral ventricles appear normal. The right and left corpora striata, cut very carefully into thin slices, show no lesion. The thalami optici, cut in thin slices, did not exhibit any lesion. Lying over the left upper tubercles of the corpora quadrigemina in ventricular cavities, is a *tumor*, the pineal gland, oval in shape, accidentally torn from its attachments, notably enlarged, measuring ten millimetres in length and five in thickness. It must have played, during life, the part of a tumor, and compressed the venæ galeni in the velum interpositum, thus producing the ventricular dropsy. It may also have affected directly the upper set of tubercula quadrigemina. Soft and fleshy, connected with the choroid plexus, it had also contracted an attachment with the floor of the third ventricle. No apparent atrophy of the tubercula quadrigemina. They are injected, the upper bodies especially. The tumor is grayish. On the extremity of the choroid plexus of the left lateral ventricle, is a smaller tumor, of a similar nature; also one in the posterior part of the right choroid plexus, the size of a small pea. The pia mater peels off normally from the convolutions.

Thorax.—Lungs crepitant, especially at apex, passing into the third stage of lobular pneumonia, breaking down, and would not float. Contained cavities of the size of a walnut. Heart normal.

Abdomen.—Liver hypertrophied and extending to the crest of the ilium, otherwise normal. Kidneys, spleen, and ovaries normal. The degree of emaciation of the body extreme. Necrosis of the spinal processes of the scapulæ at the seat of bed sores.

The eight above mentioned cases may be considered as typical

of various forms of insanity, manifesting themselves intercurrently with gestation and the puerperal condition—the two first (cases XXIII–XXIV), owing to the albuminuria and consequent uræmia, fatal in their termination; the third (case XXV), manifesting itself in a hysterical form, and culminating in melancholia, with delusions—in other words, emotional or ideational insanity; the result of anæmia, induced by the coexistence of lactation and gestation, yielding to the removal of the existing cause and a tonic course of treatment. The fourth (case XXVI), declaring itself during lactation, has had no recurrence of the symptoms, although she has given birth to four children since then, and her trials in life have been unusually severe. The exciting cause of her insanity—emotional in its nature, with a homicidal monomania towards her offspring—was plethora, a hyperæmic condition of the cerebral vessels, which was relieved by repeated venesection. No doubt some of the specialists might look upon this case as epileptiform. This I am not prepared to concede. In the epileptiform there is always a *loss of consciousness*, at least a *momentary* one, and the reaction may lead to uncontrollable acts of violence—in fact, one of the most dangerous forms of insanity, for courts of law hesitate to shield its unfortunate subject; yet he should be no more amenable to punishment than the confirmed maniac, save the restraint which the self-protection of society requires.

Mania, manifesting itself in the pregnant woman, might present medico-legal points of interest to the general practitioner; at least, questions in expertism might be put to him—not as an expert specialist, some of whom are subject, like Macbeth, to that

“Vaulting ambition which o’erleaps itself,
And falls on the other” (side).

On the contrary, far from it—but as a man possessed of a fair modicum of common sense. Monomania would present some points of special importance; for some specialists, metaphorically perverting *falsus in unum, falsus in omnia*, claim *insanus in unum, insanus in omnia*—a rather dangerous doctrine for any

person subject to an *ism*. Therefore, to control a maniac's free will, or to vitiate his testamentary capacity, his monomania must manifest itself in such a form as either to be possibly injurious to himself or others, or else that he, in his will, gives expression to his monomania. For instance: in the Bonard will case, tried in New York a few years since, the contestants endeavored to prove a monomania on the part of the testator, as regards cats, dogs, etc., thereby to vitiate his will. But, as he only provided for the prevention of cruelty towards living animals, his will was very properly sustained. Some years since, a patient of mine, a thorough business man, whose disorder, save to his immediate family, was unknown, suffered from a painful monomania. The illusion, or rather hallucination, consisted in the imaginary impression that in dangerous or exposed situations he had unintentionally destroyed some fellow being's life; and, on one occasion, whilst laboring under it, he attempted to commit suicide. He was only quieted when the small brook, in which the homicide was presumed to have been committed, had been fruitlessly searched through its entire extent, and it was also found that there was no one missing in the immediate neighborhood. This miserable man was fully cognizant of this painful hallucination, still, by having a relative to act as his shadow, was enabled to conduct an extensive and lucrative business, the only detriment being the ill effects of the strain on his unfortunate shadow. Had this man made a will, in which he provided for the relatives of his supposed victims, or else directed a monument to be erected to the memory of the latter, his will would no doubt have been set aside; and Bonard's, also, if the latter had provided for the erection of a temple sacred to his *metempsychosed* animals.

The fifth and sixth (cases XXVII-XXVIII) are chiefly remarkable as occurring in both mother and daughter. In the mother, the moral sense may have fostered the development of the insane neurose in the first instance, as she was, in consequence of her *faux pas*, harshly treated by her relatives. In the daughter, there were no such reasons for the evolution of this disorder. The

special pathology of both is obscure, and will remain so. As for the theory of transmitted insanity, I should hesitate to apply it to the daughter's case. It looks more like a coincidence.

The seventh one (case XXIX), manifested itself in a person inheriting a marked tendency to an insane diathesis, two mild attacks occurring subsequent to the second and third parturitions, during the first and second weeks of convalescence, both of which rapidly subsided. The third attack, declaring itself in the second month of the gestation of the sixth pregnancy, in a delusional form, finally culminated, on the second day after parturition, in acute mania. Removal to an asylum, hypnotics, and a tonic course of treatment led to a partial recovery; for there are some vagaries and eccentricities still existent. Its special pathology I know not; yet, I have no doubt gestation will again develop the insane neurose, the embers of which are quiescent.

The eighth (case XXX) is one the specialists would no doubt look upon as a coincidence. This I am not as ready to admit as I would be in the two first cases, complicated with albuminuria; for its crucial analysis gives the following results: I. The neuro-retinitis, with consequent atrophy of the optic nerve, was only a local lesion, neither dependent upon or intercurrent with a cerebral one; consequently, a neuro-retinitis ascendens, and not descendens, as suspected. II. There were no tangible evidences of a cerebral lesion, until the 13th of July, 1867, which then presented themselves as symptoms of mental aberration. III. The previous nausea and vomiting was evidently the reflex result of gestation. IV. The first physical symptoms of a central nervous lesion only manifested themselves on the 9th of May, 1871, nearly four years subsequent to the aberration; and, V. The clinical record of the asylum was worthless as regards the pathogeny of the disease.

This case must, then, be looked upon as one of puerperal insanity, so-called, although I am ready to admit that the insane symptoms, partially intellectual, of an ideational nature, with delusions, and finally terminating in dementia, might have devel-

oped themselves later. The specialist may probably exclaim, "He admits of its coincidence." *Cum grano salis*; for I maintain that there were no indications whatever of a central organic disease—save the ophthalmoscopic one, rendered nugatory by the autopsy—until subsequent to conception and the consequent gestation. Still, *badinage à part*, the central lesion may have, in all possibility, been lying dormant, and its embers rendered incandescent by the intercurrent of pregnancy. Therefore, the latter must be considered as the exciting cause.

If I am correct in my premises, the term puerperal insanity, as applied to them, is a misnomer, for the cases quoted certainly demonstrate that it may manifest itself at any stage of gestation, and of its sequences. The English and American authorities *at my disposal*, fail to make the distinction. On the contrary, the French, among others Marcé, give us the "*Folie des femmes en cientes*." "During pregnancy, disorders of the intellect manifest themselves: 1. Consisting in simple moral dispositions, which are not sufficient to deprive the patient of her free will, but impress her behavior and physiognomy with a character altogether peculiar; 2. Or they constitute a state of mental alienation of variable form, but well characterized. In the first instance, an unusual tendency to discouragement and melancholy is most frequently noticed, and this condition usually terminates with the completion of parturition, especially if there is no unfavorable predisposition existent. In the second place, the principal etiological circumstances are hereditary precedents, former attacks, anæmia, and painful and prolonged moral emotions." *Folie puerperale ou des nouvelles accouchees*. "It may present any form of mania which declares itself either in the first eight or ten days subsequent to parturition, or during the ephemeral fever accompanying lactation, or five or six weeks later, at about the first period of the recurrence of menstruation. The number of pregnancies, their difficulty, those of parturition, and heredity, particularly predispose to it." The misnomer will, no doubt, be continued, although, to the general practitioner, it will always

apply to the mental disorder accompanying gestation and its sequences.

The prognosis of puerperal insanity, as previously mentioned, is, therefore, contingent upon its etiology, rather than on its form. Yet, the latter should not be overlooked, for the statistics of asylums tend to prove the prospect of recoveries in the following order: mania, melancholia, and dementia. The duration of the disease depends upon whether it is acute or chronic—its average duration four months.

Before passing to the consideration of treatment, I will refer to a question which not infrequently presents itself for the serious consideration of the general practitioner, as specialists are not always at hand: What are the consequences of pregnancy in a woman previously insane? Esquirol says: "Pregnancy, parturition, lactation, are the means sometimes made use of by nature to resolve insanity; I believe such endings to be rare." Experience certainly sustains the opinion of this distinguished alienist; and the physician whose advice is sought under such circumstances, and whose duty to society it is to give it, should weigh well his words when he gives such advice, either to the married woman, or to hasten marriage in the maiden with a similar object in view; for transmitted or inherited insanity is unpardonable, even as the result of an error of judgment on the part of the physician. Still, there are cases of mental disorders accompanying functional, and even organic uterine lesions, in which such a course would be advisable.

CASE XXXI.—For instance, in 1862, I was consulted by a young married lady, twenty-two years of age, the wife of a clergyman, who had only been married a few months. Just prior to her marriage, during menstruation, she took a river bath. The sequence was a chill and suppression of the catamenia. At every succeeding period, she suffered from paroxysms of severe dysmenorrhœa, accompanied with hysterical eclampsias, which would continue for thirty-six, forty-eight, and even seventy-two hours. These attacks would leave her in a state of dementia, persisting

for days. Her husband, a very intelligent and highly educated gentleman, observed that the mental disorder was becoming more pronounced. Prior to sending for me, he consulted an eminent gynæcologist, who advised surgical interference and division of the os uteri. After making an examination of the case, considering it to be a case of chronic corporeal and cervical endometritis, with consequent dysmenorrhœa, I introduced carbolized sponge tents, and, after three months' treatment, the hysterical eclampsias subsided. Fifteen months subsequently, she gave birth to a boy. During her pregnancy, the symptoms of dementia gradually subsided, and she had no recurrence of them. After an interval of ten years, she gave birth to her second child, and is now perfectly well.

The treatment of these cases necessarily varies with each individual one, and the stage of utero-gestation, or of lactation, in which the disease may manifest itself. In one case it may be plethora we have to contend with; in another anæmia. In the early stages, when the pulse rises rapidly to 130, even 140, with a furred tongue and cephalalgia, the idea of depletion would be precluded. Yet, if the pulse was full and bounding, recourse should be had to venesection without hesitancy. In cases in which undue sensorial excitement manifests itself, chloral and bromide of potassium would be indicated; also, the monobromate of camphor. The latter should be administered cautiously, especially in case of any indication of cerebral anæmia, as it is apt to induce convulsions. I have seen one instance in which its use caused severe epileptiform eclampsias. Warm baths are also beneficial; if there should be evidences of cerebral anæmia, then strychnine, digitalis, ergot, phosphorus, zinc, etc. But, above all, the secretions should be attended to, or, as the older authorities laid it down, regulate the *primal viæ*.

CASE XXXII.—This is an exemplification of the difficulties and possible errors of judgment we might possibly fall into. Some years ago, I was called to a young multipara in the sixth month of lactation. She had an attack of malarial fever, of an

intermittent type, which caused a suppression of the lacteal secretion. In forty-eight hours, symptoms of acute mania manifested themselves. The pulse rose rapidly to 130, but feeble; complained of cephalalgia. Under such circumstances, depletion or venesection was contraindicated. Therefore, I made cold applications to the head, applied a blister to the back of the neck, and gave her bromide of potassium, with digitalis. She refused nourishment, which is an unfavorable symptom. She finally sank into a typhoid condition. The temperature did not rise above 100°, until twenty hours prior to her death, when it rose to 106°. She died on the ninth day, and no post-mortem was allowed.

The management of these cases is even more essential than their therapeutics. Quietness is necessary, and all things tending to excite them should be avoided. Prior to parturition, it is advisable to avoid transferring a patient, if possible, to an asylum. Therefore, a reliable nurse is imperative; in some cases, two are more efficient; one—the controlling one—should be positive, determined, even imperative; the second, a kind, sympathetic one. In Case XXIX, I succeeded admirably in controlling the patient by such means.

If an attack does not subside after the first necessary indications have been met, removal to an asylum will become necessary. There must be no hesitancy about this step, lest the patient suffer thereby. Yet, by acting hastily, one may expect censure; especially in these days when courts of law—as regards the committal of patients to an asylum, and their retention there—pander to popular clamor, and members of our own profession—it is true, connected by the ties of affinity—stand ready to defend them. It is, therefore, necessary, in proceeding in such cases, to make use of the greatest tact and circumspection. Having, after calm deliberation, arrived at a conclusion, it must be carried out, utterly regardless of oneself, with only one object in view—the welfare of the patient. The following cases will illustrate my point:

A lady, of an eccentric character and excitable disposition, in

her tenth pregnancy had considerable hemorrhage ; in consequence thereof, was rather anæmic, and developed symptoms of insanity. Her physicians sent her to an asylum. Recovering her strength, she, in a few days, realized her situation, and, by a cleverly and well executed plan, deceived her attendant, effected her escape, and returned home. Since then she has given birth to eight children, dispensing at such times with the services of a physician, and with no recurrence of her insanity. It is needless to add that her confidence in the medical profession is not exalted, particularly as regards her former physicians ; but she bears them no ill will, and always meets them non-professionally in a most friendly manner. It is, therefore, important to be exceedingly cautious, and to steer clear of the ill defined border line between eccentricity and insanity. An analytical study of the character of Burchel in the *Vicar of Wakefield*, will clearly define it to any mind. In my fifth case, the patient has not borne any ill will towards her physicians, either in or out of the asylum—on the contrary, feels grateful for what was done to her.

Again, the utmost circumspection may be made use of, and the protection of nine points of the law secured—even then you may not escape censure ! aye, even slander ! Some years since, it became necessary to suggest the removal of a patient to an asylum. This advice was given to both friends and patient. Knowing and feeling the responsibility about to be assumed, I sought the advice of two experts, who, after carefully examining the case, agreed as to the propriety and urgency of the course suggested. The certificate was signed and sworn to by three physicians, one of them an expert ; all the immediate relatives, save two, signed the petition for the committal to an asylum, and the warrant was issued and signed by a justice. The hue-and-cry raised was something marvellous. It was said the deed was done from the most sordid motives. Even worse—the patient, after leaving the asylum, gave currency to its having been done for the most nefarious of purposes ! Nothing daunted, conscious of a duty rightfully performed, I quietly bided my time, and the patient finally

acknowledged, about five years subsequently, that the restraint of an asylum would be for the best. Ere this was carried out, the patient climbed over the top sash of a window, and fell on the flagging below, mortally injured. Nevertheless, even with such a grim vindication, the immortal bard's lines should be well borne in mind :

“ For slander lives upon succession,
Forever housed where it gets possession.”

(To be continued.)

ART. IV.—*Aconite*. By Starling Loving, M.D., Professor of Theory and Practice in Starling Medical College, Columbus, Ohio. Read before the Columbus Academy of Medicine.

[Continued from page 227.]

Dr. Wood, as already stated, quotes largely from Fleming and Schroff; he also acknowledges himself indebted to the experiments of Dr. Jonathan Pereira, which were made in 1837-8, and adds a great deal from his own observation, which, particularly in reference to the therapeutic application of the drug, is of value now. He classifies aconite with nervous sedatives, and states, with regard to its mode of action, “that the effect altogether is that often felt in cases of commencing paralysis;” that is, the change in the cutaneous sensibility, and the impaired moility occasioned by the drug, resembles strongly the impairment of the nervous functions observed in the outset of peripheral paralysis; but he thinks this effect is due to the primary influence of the medicine on the central instead of the peripheral portions of the nervous system, as has been demonstrated, apparently, since the publication of his learned work. He supposes its influence to be expended mainly on the medulla oblongata and spinal cord, and that the distant parts are affected secondarily.

Stille, who published the first edition of his work in 1860, quotes from Sir Benjamin Brodie, Pereira, and Fleming, and also Dr. Robert Jackson, and concludes: “From these experi-

ments, the force of the poison would appear to be expended upon the nervous system, attacking the organs of motility first, and then those of sensibility. The muscles of purely voluntary motion seem to be the first and principal, if not the only, parts of the muscular system affected, if we may depend upon the uniformity of the phenomena observed by Fleming," etc.

This is more nearly in consonance with the idea of its action entertained by the latest writers, but it is not so definite as might be expected from so excellent an authority.

Waring (1854) writes of the remedy as of the highest value in neuralgia and acute rheumatism; but he appears to have no original ideas with regard to the nature of its action or its use, quoting almost the whole of his chapter from Fleming.

Dr. Sidney Ringer (*Hand Book of Therapeutics*, third edition, 1873,) begins his chapter on aconite with the words: "Perhaps no drug is more valuable than aconite; its virtues are only beginning to be appreciated, but the author ventures to predict that ere long it will be extensively employed." He then speaks more particularly of its external application in neuralgia, showing wherein we should discriminate.

Of its use in the treatment of febrile and inflammatory affections, he remarks: "Aconite is to be the most esteemed for its power, little less than marvellous, of controlling inflammation and subduing the accompanying fever. It will sometimes at once cut short an inflammation. It will not remove the products of inflammation, but, by controlling the inflammation, it prevents their formation, saving the tissues from further injury. It is, therefore, in the early stage of inflammation that this plant is conspicuously serviceable; still, although the disease may have advanced to some extent, and injured the organs by the formation of new and diseased products, yet, while the inflammation is still extending, aconite does good. Its beneficial effects are often visibly apparent in pharyngitis, tonsillitis," etc.

The similarity between this opinion and that of the homeopath, Teste, before mentioned, strikes us at once.

A pertinent suggestion to the practitioner, with regard to the use of this, as of other antiphlogistic measures, is contained in the following: "We feel constrained to point out here the signal service rendered by the thermometer in enabling us to decide whether or not aconite should be given. Indeed, in the treatment of inflammations, the thermometer and aconite should go hand in hand. If the symptoms and physical signs are not sufficiently developed to decide whether an acute inflammation of some deep-seated part has set in or not, this instrument will often decide the doubt. No acute inflammation can exist without preternatural heat of the body. Hence, if, in a doubtful case, the temperature, after careful investigation, is found natural, the case is not one for aconite; while, on the other hand, if the other symptoms doubtfully indicate an inflammation, a rise in the thermometer will add considerably to the probability of an inflammation, and will indicate the advisability of employing aconite. Sometimes the throat is swollen, very red, and presents the appearance of an ordinary sore-throat accompanied by fever, but fever is absent. Without the thermometer these two kinds of inflamed throat cannot be discriminated with certainty. The non-febrile form is affected very little, if at all, by aconite. A want of discrimination between the two forms has often led, no doubt, to the mistaken use of aconite, so bringing discredit on this valuable drug."

He further remarks: "It is doubtful whether aconite will shorten the fever of acute specific diseases, as scarlet fever, measles, etc., but it has a beneficial influence in these diseases, soothing the nervous system and favoring sleep by inducing free perspiration."

He might have added—also, by reducing the temperature, diminishing the general sensibility, and increasing the flow of urine.

I think no apology is necessary for these long quotations, when their extreme value is considered. In them lies the sum of the treatment of inflammatory disorders, whether by aconite or other remedies.

Dr. Ringer states in the preface to his book that, as a rule, he omits the various speculative explanations concerning the modes in which remedies effect a cure. This is perhaps the easiest method of passing the thorny part of the path in therapeutics, but it is not altogether the most satisfactory to those of an enquiring turn of mind.

Dr. Robert Bartholow (1876) enters fully into the discussion of the mode in which aconite is supposed to produce its peculiar effects on the body. He concludes that it affects the sensory nerves before the motor, and in the following order: It paralyzes, first, the end organs; second, the nerve trunks; third, the centers of sensation in the cord; fourth, the motor centers; and, fifth, the motor nerve-trunks.

Dr. Isaac Ott (*Action of Medicines*, 1878,) thinks "it paralyzes successively the sensory and motor nerves and muscles. In the brain the centers of voluntary movement are much enfeebled, but the sensory centers are intact;" and, quoting Dr. J. M. Murray, who made many carefully conducted experiments with aconitia, says, "as a rule, it paralyzed the motor nerves; that it paralyzed, first, the ends of sensory nerves, then their trunks and spinal sensory ganglia, and did not act on striated muscles." The similarity between these conclusions and those of Dr. Bartholow, shows that we are at last arriving at accurate knowledge concerning the influence of this remedy, those who have given it most attention, and whose attainments best entitle them to opinions, agreeing on essential points.

The mode in which aconite affects the heart is not yet decided. In the lower animals, if brought in direct contact with the organ, it weakens the force and number of its pulsations, and finally arrests its action altogether; but we can not be sure that its operation is so direct when brought about through the channel of the circulation. Its paralyzing influence on the pneumogastric nerve is decided, and we might suppose the heart to be affected through the inhibitory center; but this is denied by Murray, although asserted by others. Bartholow says it is a direct

cardiac poison, affecting the ganglia and muscle of the heart, and is also sedative to the vaso-motor nervous system. Whatever the explanation of the mode, it certainly influences the action of this organ in a most remarkable manner, as the pulse, when the system is fully under the influence of the drug, is reduced from the normal standard to fifty, forty, and even as low as thirty beats to the minute, and when a poisonous quantity has been swallowed and had effect, it becomes exceedingly slow and weak, and finally imperceptible at the wrist. So feeble is the action of the heart and the contraction of the arteries, that the blood seems to creep through their channels, and the sounds, especially the first, are very faintly heard.

The effect on the respiration is commensurate with that on the heart, and is caused by the loss of muscular power, the impairment of nervous influence, and in part by the condition of the heart. The respiration, under the full medicinal action of the drug, becomes slow and shallow, and finally, in poisoning, ceases before the action of the heart. The secretion of the skin is notably increased, in fact perspiration is frequently profuse from the effect of medium doses. The solid, as well as the watery elements of the secretion, are augmented.

The effect upon the kidneys is less decided, but positive.

Aconite is apt to occasion nausea, and, not unfrequently, diarrhœa, if administered when there is existing irritation or inflammation of the alimentary mucous membrane, particularly that of the stomach and small intestines. Occasionally, an individual is found with an idiosyncrasy, who cannot take the smallest dose without suffering from nausea, vomiting, and purging; but purging is not so common as sick-stomach and vomiting. Such persons, having once experienced such effects, generally inform the physician, as soon as they detect the odor of the tincture, that they cannot take the medicine with any degree of comfort, nor with benefit.

While it does not produce stupor, like the narcotics, a lethargic state, somewhat like that resulting from the influence of moderate

quantities of that class, is observed from its action on the nervous system. The patient is not stupefied, but he is quiet and disposed to sleep, if undisturbed ; if he had been suffering pain previously, he is apt to express himself relieved, if the pain arise from non-inflammatory changes.

From these influences combined, there is a diminution of temperature so decided as to attract attention, and easily marked by the thermometer. In poisoning, coldness of the surface is a striking symptom.

The therapeutic applications can, in a measure, be inferred from what has been said of the effects.

It is capable of fulfilling many important indications.

In the treatment of diseases of the vascular system, it may be used to control the movements of the heart, when there is vehemence or disorder, or both, without debility or serious structural change ; in inflammatory affections of the organ, and when there is violent and irregular action from nervous disease ; hence, it is beneficial in the early progress of true hypertrophy, with or without valvular lesion. It is a good remedy in the outset of endocarditis and pericarditis, for, while it controls excessive action, it has the effect of materially modifying the inflammatory process. In these conditions, especially the last two, it has appeared to me to be superior to *veratrum viride*, and not more difficult to control. In the treatment of nervous affections involving the heart, it may be prescribed alone, or in connection with such other medicines as may be indicated by the circumstances of the particular case. It is contra-indicated when the heart is weak from any cause, and should not be administered, at least not in full doses, when the passage of the blood through the organ is much impeded by disease of the valves or other cause, even though there is no evidence of debility.

There are many morbid states, of themselves not particularly distressing, but which, owing to the organ involved, or some general condition, are not unfrequently complicated with a degree of hyperesthesia and deranged innervation which renders them ex-

ceedingly uncomfortable to the patient and perplexing to the physician. This complication is often observed before and during the menstrual period in women, who have, in some instances, active congestion, and in others slight inflammation of the os and cervix uteri, or of the ovaries, but in other respects have fair health. They are frequently of full habit, and, in addition to the other ailments, have a tendency to febrile excitement, and sometimes to fever. Such patients do not suffer from what we define precisely as hysteria, but they are in a hysterical state. Their need is something to control nervous and vascular excitement, and, in my opinion, nothing is better than a full dose of aconite, followed by smaller doses to maintain the influence when once it has been established.

Many women, at the climacteric period, suffer from the same condition of the nervous system, and may be relieved by the same method of treatment.

It is well known to those familiar with the uses of aconite, that it is an efficient remedy for dysmenorrhœa, dependant on congestion or an irritable condition of the nervous system.

In neither class of such cases is it in general considered desirable to use active depletory measures, and it is hazardous to repeat the influence of opium or chloral as frequently as recurring attacks demand treatment; experience has taught the inefficiency of most of the so-called nervines and antispasmodics, and it is a comfort to find a remedy which fills the gap as does aconite.

A paroxysm of true hysteria may generally be controlled by a dose or two, provided the patient is in condition to bear the influence of a depressing medicine, which is generally the case, at least so far as the effect of moderate doses of aconite is depressing.

The headache and nervous exaltation, with greater or less vascular excitement, so common in both sexes as a result of mental effort, mental disturbance, and exhaustion, and so very annoying, especially in those in whom the nervous temperament is excessively developed, are, as a rule, easily controlled by aconite. It

is to be regretted that this is not remembered, and that opiates, chloral, etc., should be so generally prescribed in this class of cases, often, from the necessity of frequent repetition, to the injury of the patients.

Neuralgia, and affections partaking of the character of neuralgia, are frequently promptly relieved or cured by full doses, the decided effect of the medicine being necessary for the control of these maladies. Often the local action, combined with the general influence, hastens relief. In an occasional case, the local application of the remedy alone is sufficient. It has seemed to me that this is especially true of neuralgia of the seventh and fifth pairs of nerves, but this may be only fancy.

Those cases of the disease arising from mere functional disturbance, and such as depend upon hyperæmia or inflammation, are most under the control of aconite; when originating from wounds, abnormal growths, etc., or from constitutional vice, the medicine has comparatively little value. In general, other remedies are more efficient in the cure of neuralgia. If it be used as a local application, the tincture of the root or a solution of aconitina are the most efficient preparations, greatly superior to the liniments and ointments more commonly prescribed.

I have had no experience with the very small doses recommended by some authorities, in the treatment of chronic nervous and visceral diseases. It is scarcely compatible with good sense to suppose one drop of the tincture, or an equivalent of another preparation, repeated daily, once, twice, or even three times, can have much influence in the cure of any disease whatever, except in the same direction that Perkins's metallic tractors, or Holman's liver pad, may be supposed to cure.

Through its influence on the nervous system, the heart, the temperature, and the secretions, as already described, aconite exercises powerful control over the fever process, whatever its origin, and nearly in the same degree over acute inflammation in its first stages. It does not appreciably modify the duration of specific fevers, nor materially their course, except that it lessens

their severity by controlling the action of the heart, the temperature, etc., as just mentioned. Neither does it, unless in severity, modify in any way the anatomical lesions characteristic of such diseases; therefore, we cannot prescribe it in the treatment of typhoid or erysipelatous fever with the same object as we prescribe it in ephemeral or inflammatory fever. In fact, except for the purpose of reducing the force of the heart's action, and lessening the temperature in specific fevers, thus modifying their severity, it is a somewhat doubtful remedy. Exceptions are found in scarletina and measles. In the former, high temperature is often the principal danger, and in the latter, inflammation of the respiratory mucous membrane the only serious complication.

It should not be prescribed in any specific fever more than in other diseases when marked debility is apparent.

Its best influence is seen when prescribed in the treatment of febrile and inflammatory diseases.

It is sufficient for the cure of simple fever.

In malarious fevers, no medicine has greater power in shortening and mitigating the severity of the paroxysm. Its effect on the skin and temperature, with the smallness of the dose, and its acceptibility to the stomach, renders it peculiarly applicable in these diseases. I know of nothing which promotes the comfort of patients in the hot stage, more than a combination of the effects of aconite and codeia, or morphia, in small doses.*

Of inflammatory affections, it seems to have most effect in those of the respiratory mucous membrane, and of the serous membranes. In acute tonsillitis, acute pharyngitis, spasmodic croup, true croup (not diphtheritic tracheitis), acute and sub-acute bronchitis, catarrhal pneumonia, especially affecting children, it may be administered with confident expectation of quick and decided effect, if the case be offered in the early stage.

In the management of all these diseases, decided doses are

* It is almost too much to hope that an opportunity may be offered this summer to test the merits of the same combination in yellow fever.

necessary until appreciable effect is obtained. This done, we ordinarily may confidently expect the speedy arrest of the case.

Dr. Bartholow thinks he has obtained good results in the treatment of "fibrinous pneumonia," but we may be permitted to doubt, inasmuch as this disease is probably self-limited, whether more than mitigation is ever observed.

The full effect of the medicine is most decidedly beneficial in the treatment of acute inflammations of the serous membranes. Mention has already been made of its application in the treatment of pericarditis; it is more reliable in the treatment of pleurisy and peritonitis.

Were I called to-day to treat a case of either disease, I should at once place the patient under the combined influence of full doses of aconite and morphia (the latter administered hypodermically), and confidently expect a speedy cure.

My experience, which is limited, does not permit me to speak favorably of aconite as a remedy for acute rheumatism.

In general, the milder effects of the medicine are usually sufficient for relief. In severe cases, especially in nervous diseases, as spasm and neuralgia, and in acute inflammations of the serous membranes, a decided impression is necessary, and full doses must be given.

When the physician has decided on this latter course, he should visit his patient frequently, in order that the further administration may be stopped when once the desired effect is obtained; or, in other words, as soon as the pulse begins to grow weak and slow, and the skin becomes decidedly moist, no more should be given until signs of reaction become apparent.

Over effects are usually quickly relieved by external heat and the use of alcoholic stimulants—whisky or brandy—freely given, in connection with opiates.

Let no one forget the power of aconite as a poison, and that it is capable of destroying life in very small quantities, and very suddenly.

Much less than an ounce of the tincture has produced danger-

ous, if not fatal effects. Even ten drops of the tincture of the root will, in sensitive persons, cause a most alarming degree of prostration. None of the preparations should be administered continuously for a great length of time.

This, Mr. President, is my answer to your request that I would read a paper on aconite. It is enough to show my estimation of the medicine.

ORIGINAL LECTURES.

ART. V.—*Lectures on Insanity.* By DANIEL H. KITCHEN, M.D., Chief of Staff of the Hospitals on Blackwell's Island, New York. Delivered at Charity Hospital, during October and November, 1876.

LECTURE V.—GENERAL PARESIS AND INSANITY OF EPILEPTICS.

General paralysis or paresis is a disorder characterized by a simultaneous progressive diminution of the power and co-ordinate action of both the mental and muscular forces.

This disorder has received many long, and often either inadequate or confusing synonyms, which it is proper for you to recognize; they are: "General progressive paralysis," "general progressive ataxia," "general paralysis," "general incomplete paralysis," "general incomplete paralysis of the insane," "paralytic dementia," "progressive general paresis," etc.

This malady is usually divided by arbitrary boundary lines into three parts or stages: First, the stage of invasion, which is that part which is seldom seen by officers of an insane asylum; second, the stage of progression, showing particularly the characteristic symptoms of the constant diminution of mental and muscular powers; third, the stage of decline or dementia and muscular inability.

There is quite a dispute among observers, whether this disease

manifests itself first in the motor or the mental symptoms, which I deem of very little importance, as the ailment is seldom seen by the physician in its very beginning and before symptoms of both motor and mental functions are recognized.

I will endeavor so to arrange the symptoms in succession as to give you as much as possible a fac simile of a case, as you might meet with it. First, let me premise that the disorder occurs much more frequently among men than among women, never in children, and rarely before the age of twenty-five.

A person of previous good health is observed to abstain occasionally from the usual daily vocations ; in other words, to make a holiday of it, or to busy him or herself about other matters actually not necessary ; it is noticed that the patient wanders from home, or, if company enough at home, to act as if more than ordinary importance ought to be attached to his or her presence, displays anything handsome and valuable in possession, occasionally covets and steals articles to correspond to or fill up a chain of extravagant ideas, states an intention of buying this house, or that horse, or something else of great value ; when wandering among friends there is a disposition noticed to neglect those small points of decency coveted by the well-bred ; for instance, he will enter bed rooms of others at unreasonable hours, speak about attending to his necessities before company, and even occasionally make indecent gestures, and in further advanced states expose his person. These points of indelicacies are in most cases unintentional by the patient, and are simply due to a want of control of the emotions ; in some cases they are, however, intentional. On frequent occasions an unaccustomed indication of profanity is observed. This continual restlessness is not only manifested by neglect of needful duties, riding about among friends or driving to acquaintances, but also by writing letters to them, the contents of which not only show the ideas of extravagance and grandeur, but also manifest that want of co-ordination of ideas so frequent in those cases.

With this altered expression of feelings, ideas and acts, a slight

impediment in the use of the muscular system is apparent, and which increases as the malady progresses. The patient stammers occasionally, the lips tremble as well as the tongue, the gait begins to show peculiarities—it resembles that of a sea captain—indicating, in other words, an uncertainty where the next step would reach the ground; the patient's gait is also somewhat straddled. When trying to pick up or grasp some fine or small articles, there is a trembling and uncertainty of prehension easily noticed. Among the first signs of motor paralysis, I would state, even in view of the almost universal declaration of symmetrical paralysis, that a dragging of the left foot while walking has appeared to me as one of the most reliable. Contraction of pupil has been mentioned by Dr. Allbut during this stage. The pulse is increased in frequency, but is not very feeble. After these mental and motor anomalies have been observed, the friends will sooner or later be astonished by an outbreak of excitement and rage, rendering the patient for a short time difficult of control. This is usually the occasion when a suspicion of insanity is aroused in the household and among friends, and the opportunity sought to place the patient under restraint.

The asylum has often a very salutary effect, and the first remission takes place, which, if the experienced physician has not received proper report of his or her previous symptoms, will often lead to the discharge of the patient as cured or improved, only to be brought again under his care in a few weeks or even days. From this point an aggravation of symptoms is noticed, and the case is of more decided character. We may now say that the second stage has begun.

The motor symptoms now become very marked; there is an inability to mould the tongue for proper articulation, and to speak rapidly becomes an impossibility. Some words are pronounced only after considerable exertion, and the effort accompanied with that singular bending of the neck and twisting the head sideways and half around, as if to assist with it that difficulty of speech. If the patient is asked to protrude the tongue, it is

done with difficulty and a spasmodic effort, only to immediately retract it; or, when told to keep it out, unsteadiness, with trembling during the effort, is very marked. The muscles of the face undergo an alteration, some being relaxed, allowing the opposite muscles unfair play, which leads to an expression not unlike that of a man under influence of complete intoxication. Twitches of the face are very common. I might here state that you will find many symptoms to be very similar to those of a drunken man, the detailed points of which will be mentioned under the chapter of diagnosis.

The restlessness mentioned in the first stage continues, even increases, and there is continuous walking up and down the hall and from one place to another. The peculiarity of that walk is now much more marked than before; the dragging of one foot is changed to the dragging of both feet, giving the patient a sort of shuffling gait.

As if conscious of the difficulty of bringing the muscles into proper co-ordinate action for progression, the patient appears to make extraordinary efforts to retain an equilibrium, walks without hardly lifting the feet, looks steadily at some self-proposed spot on the ground, as if he wanted to walk particularly in a straight line, and so as to be sure not to lose his balance, puts his feet flatly on the ground and separates the legs. Even his arms are sometimes used as if they were balancing poles, and the head kept strictly perpendicularly stiff, to be sure that its weight should not draw him out of poise. The whole gait has the appearance of a resolution to walk a chalk line, with all the manifestations of difficulty and defect to accomplish it. Although the gait will again put you in mind of a drunken man attempting to walk steadily, the difference is that the latter will make a dash for the point in object, the paretic does it with premeditated carefulness. So manifest is this carefulness, that he will neither eat, drink, talk, receive anything from others, etc., without first stopping and poising himself in his proper center of gravity, and only when finished resume his walk. The same consciousness of

difficulty of balance is evinced in rising from or sitting down upon a chair. It is a square act, always using both arms like crutches in support of the body, to avoid one tuber ischii touching the chair before the other. When eating, the fork is held unsteadily and tremulously, and the mouth wide open to increase the diameter of the target. The patient will drink with both hands holding the cup, to keep it steady, and not infrequently allow part of the fluid to trickle down the deep folds running from the angle of the mouth, and which are so commonly noticed in looking at the countenance of a paretic.

During this stage of paretic infirmity, the outbursts of excitement and rage become more frequent and violent, with a decided disposition to smash things generally; between these attacks of anger, he is, however, generally in the best of humor. Delirium is now also apparent, and, although the patient has no hallucinations, he seeks to talk constantly upon a variety of subjects at the same time, thus giving his conversation the appearance of a complete muddle in ideas upon many texts. When in a state of excitement, the delirium leads him to unguarded expressions in respect to propriety and religion. Profanity and filthy talk are not uncommon, and passionate exclamations of all kinds frequent.

When not excited, we find the lofty ideas of wealth and position lead him to the most unqualified assertions, which clearly designate the ebbing state of his intellect. The patient no more intends buying a house, a horse, a farm, but now says, I possess a vast tract of land, a kingdom, millions of money, fleets of ships, enormous power, princely estates; they say they own this or that building, and cannot understand why they are not allowed to go out and give directions. Their ideas of grandeur go into most impossible domains; they speak of marriages with this or the other princess, give away millions of money, writing out checks for it, believe themselves of mental capacity equal to a Palmerston, a Henry Clay, or a Bismarck, have the strength of a Hercules and the powers of a first Napoleon. When asked how they feel, they say, always, well, splendidly, like a prince, couldn't

feel better, etc., all in view of the fact that they are miserable, tottering, stammering, demented beings. Letter writing, although at the beginning of this stage often attempted and carried out with all pompous assertions, now becomes difficult and soon impossible, as the hand is unable to hold and guide the pen, and the mind unable to guide the ideas. Days of mental depression intervene, wherein the patient is subject to terrific delusions, and often to attacks of crying. Here, I may state that we meet, occasionally, with cases where depression is more marked than exaltation.

Loss of memory becomes now, also, very apparent, even so much so that the patient sometimes forgets his previous domestic and social position. The eye has now a somewhat peculiar appearance; it is dull, and characterized by the vague expression of one deficient in the organ of sight. It is best compared with one congenitally short-sighted. The pupil which has in the first stage been found contracted, is now rather dilated. But, like other irregular and incoherent actions of the muscles, the same is manifest here; the pupil is no longer perfectly round, but sometimes oval, and occasionally slight indentations and elevations are observed. I believe Dr. Austin was the first to discover these irregular contractions of the iris. As the case advances, general sensibility is impaired, and the special senses suffer more or less, particularly vision, touch and taste.

Many of the peculiarities of locomotion and manipulations of the patient can be explained in part by the defective power of vision. It seems to be more an unsteadiness and irregularity of the muscles which accommodate the eyeball and the lens to distances, and which concentrate the direction of both eyes on the required points. The pupil re-acts sluggishly to light, and when in this condition it may be considered that the disease has fairly attacked the centers of excito-motor reflex action. The other organs of the body, except the heart, do not seem as yet to be affected. Digestion and appetite are good, the latter sometimes enormous; menstruation normal; sexual excitement, which con-

tinued and was perhaps increased during the first stage, is now diminished, and, according to some authors, obliterated. The heart's action shows increased activity as regards the number of contractions, but is inferior in force; hence the pulse is frequent, but feeble, and the shygmograph shows us a report from which we are to conclude that the elasticity of the arteries, fibrous and muscular, diminishes with that of the heart. Respiration is also increased. Both are more so in the evening than in the morning. In regard to the temperature of the body, we are indebted to Dr. Macleod for very interesting revelations, which are of great importance in the diagnosis and prognosis of this malady. He has, after careful observations, come to the following conclusions:

1. That although generally below par, the temperature of the body rises as the paralysis progresses.
2. That the temperature is much higher in the evening than the morning, often over 1° .
3. That the farther the paresis progresses, the greater the difference between the morning and evening indications, sometimes as much as 2° F.
4. That the higher the temperature, and the greater its difference between morning and evening, the shorter the period of life.

During or at the end of this, the second stage, we often meet with another remission, either of cessation of the progress of paralysis of motor functions, without an equally favorable state of the mental powers, or, vice versa, that of the mental without the muscular forces, or of both. Such patients often return to their usual homes, but always have a relapse within a few months. Sometimes symptoms resembling apopléxy and epilepsy appear in this stage.

When the mind becomes so enfeebled that the patient cannot attend to his own wants, and when the muscular system is so paralyzed as to be unable to sustain the patient in an erect position, we may say that the third stage of general paresis has arrived.

The transition is, of course, gradual. At first, the patient,

finding an inability to stand, will lie on his back for short and afterward for longer periods. He may, once in a while, arouse himself and keep up for a day or two, but soon remains in bed. The position which seems easiest for him, is to rest on the back with knees bent. When replaced, the legs will remain stretched for a while, only to be drawn up again, until, by contraction of the muscles, they remain so, the thighs close to the abdomen. Later, a similar contraction of the flexors of the arm occurs; other muscles of the body, and such as are necessary for vegetative life, are also paralyzed; hence, there is great difficulty of deglutition, involuntary evacuations, and incontinence of urine; muscular twitching of the face is increased and noticed in other parts of the body; the speech is almost entirely extinct; no notice is taken of anything around him; vision and hearing seem much impaired; taste and smell are entirely gone, and muscular sensibility and exito-motor reflex action steadily diminishing; they devour their food, whether the same is agreeable or otherwise, all distinction between qualities being out of question; bed sores now appear; the blood vessels of thin membranes, such as the conjunctiva, show turgescence, and effusion under the skin and conjunctivæ are frequent. As the body declines, so the mind. One word will express it—a complete dementia.

The point of complete general paralysis or synchronous annihilation of the vegetative and animal life rapidly approaches, and a lump of contracted flesh and bones, emaciated and already in a semi-state of decomposition, is rendered to the grave. If no other accidental disease, or choking to death with food occurs, the patient dies of debility or paralysis of the muscles of respiration. Epileptiform seizures, apoplexy, convulsions, etc., often carry the patient off beforehand.

Other forms of paralysis, such as lead palsy, mercurial paralysis, spinal paralysis, or the general locomotor ataxia, can hardly be confounded with general paresis, for one distinctive feature excludes them all: the mental decline, and particularly the delirium. There is one pathological condition, already slightly

referred to, which it much resembles in some points—I mean the state called alcoholism, or chronic alcoholic poisoning. First, I will mention symptoms always present in one and not in the other. In general paresis we find a good appetite and normal sleep; in alcoholism there is neither. On the other hand, in alcoholism we find defective digestion and frontal and occipital headache; in general paralysis digestion is good and headache rare. The prognosis in the first is favorable, and in the latter not so. As regards mental symptoms, we cannot easily mistake the extravagant ideas of wealth and grandeur of the paretic, with exactly the opposite, humility of the drunkard. Again, delirium tremens, with the horrid sights and fears of persecution on the one hand, and delusion of golden ladders to paradise on the other—so far, we have landmarks which cannot mislead. Yet, there are two circumstances, with which we meet at first sight, very much alike and very much confounding: I mean the manner in which the two walk and talk. When we look at a case of alcoholism, when not in liquor, the motion of the legs resembles that of a feeble invalid, and as being very tired; but the walk of the paretic is more like a man's step in the dark. If we compare the tottering step of the drunkard with it, there can hardly be less distinction, because the paretic totters while making a straining effort to walk straight with spread legs; the drunkard stumbles over his own feet in the zig-zag he makes; and although both endeavor to walk correctly, the paretic does so in a carefully studied manner, the drunkard in a careless and reckless way. The same deliberate effort made by the paretic in walking, is also noticed in his speech. A drunkard's subject, and the manner in which he expresses himself, the disposition of contradiction, are too well identified with his state easily to mislead.

The very logical and striking proofs, after a most careful examination of Dr. Sankey's remarks and experience, cannot leave much doubt that general paresis is a disease "*per se*," and not an epiphenomenon of insanity. As such it is entitled to a separate consideration in regard to causes.

Statistics, as far as collected, show that the disease is more frequent among people leading a disorderly life, than those of a steady pursuit. It further shows that it is more frequent among the poor than the wealthy. When we examine the poor and disorderly living subjects, we will find that most of them drank heavily, thereby becoming poor; that they lived fast and indulged too much in sexual intercourse, and thereby became disorderly; or, crossing affinities, lived too disorderly, thereby becoming drunkards, and lived too fast, thereby becoming poor.

Ergo—First cause, by statistics Intemperance.

Second cause, by statistics Sexual excess.

Third cause, by statistics Both combined.

The next fact noticed by our experience, is that persons whose occupation is not a steady one, and such who have not the need or opportunity to fix their mind upon some employment, which would lead to a definite result for later life, are among the most frequent cases affected by general paresis. Laying that point down as a further cause, we find that disorder to occur frequently among sailors, soldiers, vagrants, and those with no employment but a small estate to live upon.

So far as mentioned, the causes seem to be more of a predisposing character. Let us see, now, how far the exciting cause, as stated by Dr. Austin, and confirmed by others, matches. In fact, it just needs such persons as lead a public and civic life, as I gave it to you just now, to work upon. Here is Dr. Austin's experience and statement of the exciting cause of general paresis: "An acutely painful impression on the moral sensibility."

Is not the remorse and feeling of inferiority of the fast man, the drunkard, the disorderly, and prostitute, a proper soil for above cause, or also the vague life and clouded hopes of a sailor, soldier, or vagrant? Would not just such persons' moral sensibility be most easily impressed? The rich and high in station are not as easy subjects for such moral impression, and such as are we will place among the smaller percentage of causations.

Aside from the above stated circumstances, we have to record

accidental causes producing the disorder under consideration. The principal are: sunstroke, injuries to the head, growths within the cranium, apoplexy, etc.

Prognosis.—Although recoveries have taken place, it was found that they did not last.

They were really only remissions—however, some of them for many months, even years. Only very few cases are reported as having ever been cured, and these few we must take with some grain of doubt whether they were really general paresis. As death is, therefore, inevitable, what is the percentage in proportion to other cases of insanity? Some asylums having only patients of high standing in life, and others the poorer classes, reports necessarily vary. About eighteen per cent. of those dying insane, belong to general paralysis. The duration of the disease varies from one to three years. Cases of over three years' standing are very rare, such of less than a year not quite so.

The morbid anatomy of general paresis has occupied the attention of the most able men of our profession, first because its recognition as a separate disorder is modern and in its infancy of exploration; and, secondly, on account of the interest felt to obtain a clue to the pathological cause of this fearful malady. Necessarily, the observations have been somewhat conflicting, but the earnestness of investigation has led to certain conclusions, which, although primary in their nature, are certainly important as a starting point and basis for general principles.

The first to examine are the cranial bones; they offer no anomalies, except, as stated by Dr. Sankey, traces of increased vascularity in some cases.

The *dura mater* is sometimes adherent to the bones. Dr. C. Westphal has described this membrane as hæmatomatous, and having inflammatory signs of the meninges with thickening. The *pia mater* has been found opaque and thick in almost every case, and is frequently adherent to the brain substance; sometimes effusion of serum is seen, when the *pia mater* can, of course, be easily removed from the cortical substance of the brain. The

arachnoid is nearly always thickened and filled with serous effusions.

The ventricles are found dilated, full of serum, the ependyma thickened, sometimes, in the form of granulations.

The appearance of the gray substance of the brain is darker than in health, and has an appearance of turgescence of its blood vessels; its consistence is not harder, but tougher, so that it can be handled more easily than in health.

The white substance is, according to Westphal and Griesinger, firmer than in health.

The specific gravity of the brain seems to be diminished, but that of the cerebellum in relation to the cerebrum increased. Atrophy of the nerves of special sensation has been noticed, particularly the optic and olfactory. Rokitsky insists upon an increased growth of the fibrous element of the brain, with glutinous, fibrous exudations; but this view is strenuously opposed by other pathologists. Dr. Lockhart Clarke says he has found in the white substance numerous small, round, and oval cavities, which, when cut through, leave smooth, sharp edges, like *Gruyere cheese*. He found them also in the pons varolii and thalamus opticus, as well as in the upper part of the medulla oblongata. Dr. Lockhart Clarke believes them to have been perivascular canals or spaces, which originally contained blood vessels, whose debris has been absorbed. Dr. Westphal thinks that no finer changes of cerebral substance can be discovered in general paresis, and opposes the views of Robin, Wedl, Sankey, Gray, etc., who speak of perivascular lymphspaces, varicose capillaries, hyaline manifestations, etc., as pathological changes pertaining to this disease. He (Westphal) states that they are representations of a normal condition of the vessels, and further remarks that no particular discovery has as yet been made to lead to an inflammatory origin or process, except to stand in certain relation to a chronic inflammatory condition of the meninges.

Taking all the statements together, we must arrive at an unsatisfactory conclusion in regard to the brain, and note that, so far,

the minute changes observed in that organ are not characteristic enough to warrant the conclusion that they are essential or pathognomonic of general paresis. The spinal cord, on the other hand, gives us more definite results, and observations of Drs. Bucknill, Boyd, Westphal, Virchow, Magnan, and others lead to the following summary: That the pathological changes are principally confined to the posterior columns, posterior commissures, postero-lateral, and lateral columns of the spinal cord; that these changes consist of a gradual atrophy of the nerve elements of these portions, and a substitution in place of fibrous connective tissues; that this atrophy and substitution advances with the progress and intensity of the disease; that fat cells and granulated corpuscles are often seen; that the pathological states of the pia mater and dura mater, as observed in the brain, are also noticed in the spinal cord; that, excepting the state of the membranes, the pathological condition of the spinal cord is not continuous with that of the brain, nor vice versa; that from these observations we infer a simultaneous but independent existence of both a cerebral and a spinal disease of general paresis; that, accordingly, a predominance of either motor or mental affections may exist. One thing seems to be certain, that the pathological post-mortem appearances, whatever they be, are more marked in general paresis than in other forms of insanity. Even from what we have seen, we can not deduce any local lesion or organic affection as a key to open the nature of general paresis, and we must therefore agree and content ourselves with others, with the general assumption that it is "a morbid nutrition prominently affecting the entire extent of the nervous system."

INSANITY OF EPILEPTICS.

The reason why I give this form of insanity a distinct place, is the same I gave for general paresis. It is different in causation, mental characteristics, and motor disturbances from true insanity and from parietic insanity, although the epileptic-form convulsions may accompany any one of the three stages of insanity. We

have, therefore, melancholia, mania, and dementia among epileptics.

It is not my object nor intention to give you a description of epilepsy, as you hear that from the chair of Practice of Medicine better than I could give it. I only have to reiterate such points which have a direct bearing upon insanity.

The nature of this disease, like general paresis, is confined to a functional derangement, caused by perverted nutrition. The locality of this functional derangement has been located by the most eminent investigators, primarily in the medulla oblongata and upper portion of the spinal cord. The character of the derangement is one of excessive functional activity, preceded by irritability of these organs without organic changes. The result is loss of consciousness and spasmodic contractions of the voluntary and the involuntary muscles of the body. This spasmodic contraction of involuntary muscles, when pertaining to the respiratory and circulatory organs, produces changes in the blood. Both a lack of sufficient quantity of blood, or an overcharge of the same with carbonic acid, will, when affecting nutrition of the brain, produce coma or momentary functional paralysis. This coma, particularly when frequently repeating itself, or when entire and prolonged, will influence the fundamental evidence of the ideal and intellectual faculties of the brain—memory, the loss of which is the characteristic symptom following an attack of epilepsy. So far, you have a picture of the general pathology of simple epilepsy. When, before or after the convulsions, or at both times, symptoms of mental derangement manifest themselves, we call it insanity of the epileptic.

The first question to arise will be, how did the mind become affected? No positive explanation can be offered, but it is very probable that it is due to either or both of the following circumstances:

1. The repeated toxic influence of carbonic acid upon the brain, must ultimately exercise a deleterious influence upon the integrity of its organic functions.

2. That the same cause which produced the irritability and excessive functional activity of the spinal cord and medulla oblongata, producing perverted muscular activity, will sometimes act on the higher centers of the nervous system, and produce perverted excessive activity of the ideal and intellectual functions; or else, what is also probable, that the perverted activity of the lower centers of the nervous system is propagated through its chains of affinity, the connecting nerve fibres, to the higher centers, inducing the same irritation and excitement.

Epileptic insanity, in its mental manifestations, is, like ordinary insanity, divisible into three forms—melancholic, maniacal, and that of dementia.

Melancholia is the rarest form, and has generally a religious tendency. A peculiarity about this form is that the excitements in it follow and never precede the convulsions.

Maniacal excitement is the usual and very dangerous state of epileptic insanity. The state of cerebral excitement may precede or follow the convulsions, or manifest themselves both before and after.

The violence of the maniacal excitements are beyond that of all other forms. The patient will suddenly, and without any warning, sign, or provocation, throw himself on the first individual he sees, strike with whatever he can reach, or with the fist, sometimes bite, kick, or throw things; in this blind fury, murder often occurs; if no person is present he will make furious cries, throw things about and break articles generally, and the person looking after the disturbance may inadvertently receive severe injuries.

Sometimes a slight change of color is noticed before the attack, and, in exceptional cases, the patient complains the day before of being indisposed. This state of excitement may last but a few minutes or continue for hours, when the convulsions begin. Generally, not one but several attacks of convulsions follow each other, often without the patient getting from the bed upon which he has been placed, as each attack is followed by the usual state of coma, which, in itself, may last for hours. It therefore occurs

that, when an epileptic has his attacks, as it is called in our institutions, sometimes days elapse before he is himself again. After the convulsions are all over, and the sleep following the coma has subsided, a state of stupor usually sets in, in which it is best to leave the patient alone, as by provocation renewed attacks are apt to follow.

Memory of what has passed before the convulsions and during excitement is entirely gone, and even if the patient has committed homicide, no recollection of the deed is left. Some epileptics have a second outburst of violent mania after their convulsions, which breaks out as they gradually recover from the coma. This excitement is, however, as a rule, not so intense in sudden acts of violence, and gradually tapers off into a quiet state. After such attacks of mania and convulsions, the patient is very feeble, and complains of headache. The frequency of epileptic attacks varies. In some instances, they seem to cluster together, frequently appearing within a short space of time, when long intervals will follow. Between these attacks, the patient will be seen to gain in strength and general appearance, but not enough to balance the extreme prostration which followed each attack, so that the sufferer sinks very gradually in body and mind. Curious anomalies of attacks occasionally occur, where either the convulsions or the mania is wanting. It seems that the cerebral excitement then acts as a substitute form; and we may be justified in this assertion, because the mental symptoms are exactly of the same character as previously, when accompanied by epileptic convulsions, and also because these isolated attacks correspond to about the time when an epileptic attack is expected.

This last assertion leads us to a form mentioned under the head of epilepsy, and called *epilepsia larvalis*. This is a state of periodic attacks of maniacal paroxysms, in nature like those of the epileptic maniac, and with homicidal propensities, but without any manifestation of epileptic convulsions whatever. Now, the question has been doubted whether Morel, who first recognized these patients as epileptic without convulsions, should be sus-

tained in his opinion, or whether they should be classified among the cases of insanity with remissions.

The following reasons would justify the opinion that these violent, maniacal symptoms should be admitted as epileptic: First, the sudden invasion of the attack, without more warning than the attack of epileptic fits. Second, the regularity and periodicity of the attacks. Third, the fact that in some cases regular epileptic fits occur in a later period of life, either in place of, or with the mental symptoms.

A few words, yet, on epileptic dementia. In this state, the patient is no longer able to take care of him or herself between the paroxysms. The continually repeated violent excitements have worn the brain out and made the poor creature demented. The maniacal outbursts, however, continue, and we dare not diminish our watchfulness to prevent accidents. The patient, already reduced to a mere skeleton, will, after severe suffering, die usually in one of the paroxysms, which invariably increase as the case progresses. In some cases they are almost continuous before death.

The causes assigned to epileptic insanity are the same as those for epilepsy proper.

The disorder in question is more frequent in women than in men.

I would say, finally, that such cases of insanity, in which, after long duration, epileptic attacks supervene, cannot be classified among the above, as the symptoms differ, and the fits are a secondary result of the mental excitement.

MISCELLANY.

THE ladies begin to be heard from in force. The July number of the *American Journal of Obstetrics* contains three communications from the sterner sex. They were formerly called the gentler sex, but the paper of Dr. Anna E. Broomall suggests the change in appellation. In 200 labors, she made lateral incisions in the vulva in fifty-nine cases, to prevent perineal laceration (the operation of episiotomy). Her devastations were confined to the Woman's Hospital of Philadelphia. Dr. Abbie C. Tyler, of Illinois, reports an interesting case of inversion of the uterus, of eleven years' duration, reduced by Braun's colpeurynter. Dr. Mary Putnam Jacobi offers a learned and instructive article on acute fatty degeneration of the new-born, which is more than can be alleged of some masculine remarks in the same periodical.

THE Nashville *Journal of Medicine and Surgery*, for June, contains an account of an extra-uterine pregnancy, in which there was apparently a rupture of the cyst at an early period, followed by recovery and the passage of foetal bones through the vaginal wall some two years after. The reporter is Wm. A. Hamilton, of Heaton's Creek, Tennessee.

THE prevalence of yellow fever in some of our southern ports, leads us to publish the following curious theory, advanced by Dr. Jose Maria Teixeira, in the *Progresso Medico*, of Rio Janeiro, of April 1:

"A study of the great volume of pathology shows us that, among all the morbid descriptions, those relating to poisonings produced by the poisons classed as hematic, and notably the globular, have the most resemblance to those with which yellow fever presents itself.

"Passing from the general to the particular, we see that poisoning by phos-

phorus has an extraordinary resemblance to yellow fever, not only in its pathologic symptomatology and anatomy, but even (permit the expression) in its negative therapeutics: in its symptomatology, even to the various forms, with distinct and differing symptoms; in the autopsies, the fatty degeneration localized in divers organs; in therapeutics, the almost impotence of medication.

"In yellow fever, the blood, vitiated by the peculiar germ, which escapes and will ever escape our searches and investigations, is carried, thus altered, to the various organs and parenchymas, disturbing their nutrition and causing a retrogressive metamorphosis, that is: acting as a fat-creating agent.

"Thus, in synthesis, fatty degeneration, in its various localizations, is the producing cause of the various and varied symptoms that characterize yellow fever.

"In analysis:

"The constant and chosen organ for fatty degeneration is the liver. All necropsies prove that this pathological alteration is always present, and fortunate is the patient when it is confined to the hepatic parenchyma, the least important, in functional rank, of those that usually undergo this automatic alteration.

"Likewise, of all the forms of yellow fever, the icteroid one is that which leads us to form the most favorable prognostic.

"The aberrations which the functions of the liver experience, and which may even go to the length of producing acholia, explains various symptoms, as ictericia and the presence of the elements of bile in the urine.

"The liver, however, is not the exclusive seat of this localization, it affects other organs.

"Thus the heart usually shows itself fatty, and this alteration explains a fact often cited and observed, namely: the absence of relation between the high temperature and the slow pulse of some yellow fever patients. As is known, fatty degeneration of the heart diminishes the number of its beats, whilst the symptomatic fever of the Siam malady persists, whence the absence of synergy.

"To this cause, also, should be attributed a great number of apyretics noticed in the grave period of yellow fever, when only the pulse, without the thermometer, has been consulted; still we are far from affirming that fever is a constant phenomenon of the last stage of icteroid typhus.

"Hopelessly fatal are the cases in which the localization of the steatose operating in the kidneys occupies the whole of both; in this case the steatose brings on anuria, anuria uremia, and uremia death.

"We may believe, then, that the pathogenesis of the anuria exists in the steatose, or fatty alteration, of the kidneys, and it cannot be said that in yellow fever steatose of the kidneys can exist without anuria, or anuria without their

steatose. When both kidneys are fatty, anuria must infallibly exist, and there has been no well verified case of anuria in which the kidneys, when scientifically examined, have not shown this retrogressive change.

“Cerebral localization, also, though rare, exists and explains the long series of ataxico-dynamic phenomenon observed in some yellow fever patients.

“If we say that encephalic localization is rare, notwithstanding the frequency of cerebral symptoms, it is because pathological anatomy not only proves this assertion, but because we can refer the great abundance of ataxical phenomena to the action exercised upon the nervous cord by the blood, modified in its constitution either by the alteration due to the malady, or by principles no longer eliminated by the liver and kidneys, whose functions are more or less disturbed.

“Profiting by this opportunity, we will say that in yellow fever the vomits are sometimes of cerebral origin.

“The fatty degeneration of the walls of the vessels, and their subsequent rupture, explain the various hemorrhages.

“As is known, the mucous membranes, and especially that of the stomach, whose vascularity is notable, are the most frequent seats of hemorrhage. The rupture of the fatty walls of the vessels distributed within these membranes, produces external bleedings, in the same way as rupture produces the ecchymoses scattered over the surface of the body; these ecchymoses also give rise to external bleedings, when the protecting epidermis is removed.

“The hemorrhages or the ecchymoses cannot be easily explained merely by blood-change without alteration of the vessels; it would be necessary to suppose a violent and tumultuous exosmose, or an impetuous and swift sanguine transmigration along with profound alteration in the crasis of the blood, and even so our minds would not feel satisfied as to great hemorrhages.

“Besides, why should the fatty alteration, while localizing itself on all the organs, except only the walls of the lesser vessels? Has not steatose of the walls of the greater vessels been recognized often enough in the atopsies of persons killed by yellow fever?

“It seems, therefore, beyond doubt that it is in vascular alteration, and not exclusively in sanguine dyscrasy, we have the pathogenesis of the various hemorrhages of icteroid typhus.

“Nor need we stop to discuss the rapidity with which this alteration takes place, for we might point to poisonings by the violent metalloïd of which we have spoken, when the hepatic glandules transform themselves, so to speak, into fat within a few hours.

“And, whilst we are touching again on this similitude, we may enquire whether in the etiology of yellow fever sufficient consideration has been given to the

influence which the producing cause of the phosphorescence of the sea may exert upon its manifestation?

"This unpretentious theory, originated and written (at Jurujuba) among hundreds of patients affected by this malady, is daily receiving the sanction of practice, but its only merit lies in its linking into a single chain, explaining by a single mechanism, the various modalities assumed by this importunate guest, which appears to wish to claim right to domicile itself in the city and port of Rio de Janeiro."

THE Cincinnati *Lancet and Observer* and the *Clinic*, of the same city, have entered into the holy bonds of matrimony, and exhibit great fecundity already. The union has resulted in a weekly issue of vigorous circulation. The first number is very creditable and an immense improvement on either of its parents. In a spirit of friendly criticism, we would suggest that a due regard for the amenities prevents one from going about in their shirt sleeves. Neither does a journal appear to advantage without a suitable cover. Also, a periodical with uncut leaves is an abomination to the "busy practitioner," and is very apt to remain unread.

While on the subject of journals, we cannot refrain from noticing the modesty of the St. Louis *Clinical Record*, which states upon its cover, "St. Louis is now the acknowledged medical center of the west," etc. The inside of the *Record* is, however, devoted principally to refuting this claim. To say nothing of Columbus (or Toledo), a much better claim might be made for Cincinnati, which is evidently a center of anatomical research at present. And, while we write this, there comes to hand the annual announcement of the Ohio Medical College, which corroborates this view. Doubtless most of our readers will receive a copy of this illustrated magazine, and therefore can appreciate our feelings. The O. M. C. is a good college, but it has a peculiar way of telling it. The present announcement is profusely illustrated. One of the illustrations is very profuse. As it caught our eye, we expected to find a historical representation of the "finding of Harrison," but were disappointed, the engraving

turning out to be a picture of the museum and practical clinical laboratory. This chamber is a quarter of a mile long, unless the perspective is defective, and shows rows of very imbecile persons seated before tables sumptuously provided with alchemical apparatus. Two instructors are pacing along the foreground, one of them slightly intoxicated. At the extreme end, a stuffed effigy of General Jackson is leaning over the museum railing. The ceiling is badly in need of whitewash. We will subscribe twenty-five cents towards a new wood cut. The abundance of anatomical material is cheerfully alluded to, and a mysterious reference to such matters is undoubtedly concealed in this statement. "The chief commercial mart of the great cattle-growing and grain-producing regions of the west, our city can afford to furnish her own TABLES, at much lower rates than cities (such as Ann Arbor) compelled to draw supplies from greater distances." And again, we are told that the janitor will assist students in "securing comfortable *quarters*," which is also a cautious reminder. Seriously, a good college ought to issue good circulars, printed, also, on decent paper; and although such documents are mainly intended for the eyes of students, they would be more creditable if written with an apparent knowledge of the fact that well-informed persons would also read them. Dr. Bartholow, as we are informed by the *Lancet and Clinic*, of July 20, does not think that Cincinnati has too many medical colleges, owing to its population and "repute." Let us send the Queen City all superfluous institutions from the rest of the State, that her cup may be full.

DR. LEWIS, of Lenoir, Tennessee, states in the July number of *Hayes's Journal*, that when morphia is combined with quinine, the therapeutic effect of the latter is increased, so that intermittent fever may be broken up with less quinine when thus combined. In 461 cases of ague, he used the combination in 317, "while 144 cases were treated, as nearly as possible, in the same way, but without any opiate whatever. The average number of chills occurring subsequent to date of attendance in the cases

treated on the combined plan, was 1.03; while the average number in the cases treated without morphia was 3.09." The principle is not new, but the accurate testing is of importance. A still better adjuvant to quinine is Dover's powder, which gives the advantages of the morphia with the additional benefit of the ipecac.

In the same journal, Dr. Goodell concludes that removal of the ovaries does not destroy the sexuality of woman, and quotes Verneuil as reporting a case improved in that respect by the operation. It is plain that Lady Macbeth was not calling for Battey when she exclaimed, "unsex me here!"

At a special meeting of the Columbus Pathological Society, held in the City Solicitor's office, City Hall, Saturday evening, July 6, 1878, for the purpose of taking appropriate action in reference to the death of its Secretary, Dr. Geo. E. Summers, the following preamble and resolutions were unanimously adopted:

WHEREAS, It has pleased the All Wise Ruler to call from our midst our professional brother, Geo. E. Summers, M.D., one of the original founders of this society, and late Secretary thereof, who died of pulmonary consumption, at his residence in this city, July 5, 1878, at the age of forty-one years; and,

WHEREAS, In consideration of the eminent social qualities, and the intellectual and professional culture of the deceased, and of his kind hearted, amiable disposition, pure morals, and rare Christian virtues; and,

WHEREAS, Although unable of late years, because of sickness, to pursue the active avocation of his profession, he nevertheless continued ardently devoted to its study, and to participate in the proceedings of this society, in whose welfare he has manifested such an abiding interest, notwithstanding the infirmities under which he has labored; and,

WHEREAS, As Assistant Surgeon and Surgeon respectively of the Thirty-first and Thirty-fifth New Jersey Volunteers, he risked his life in the service of his country during the late war, when from the exposure, hardships, and privations incident to those trying times, there is every reason to believe was laid the foundation of his fatal illness; and,

WHEREAS, Having in view these, his attainments, many noble traits of character, and true moral and religious worth; therefore, be it

Resolved, That in his untimely demise this society has been deprived of one of its most devout and dearly beloved members, and of the services of a most

efficient and faithful officer—the profession at large of the beneficial influence of one of its representatives of that high sense of honor and rectitude so essential to the preservation of the purity of its code of ethics and consequently of its usefulness in the cure and alleviation of the afflicted—the community in which he lived of a most worthy citizen, accomplished physician, and patriotic, Christian gentleman.

Resolved, Moreover, that the history of the deceased, on account of his many excellent qualities, is deserving of lasting commemoration, if for nothing else than as affording a fit rule of equity to be observed in the conduct of the affairs of life, especially as pertains to our professional intercourse with each other.

Resolved, That his relatives have our profound sympathy in this, their hour of sorest trial.

Resolved, That the Secretary *pro tem.* be instructed to furnish them a copy of these resolutions, and that the secular and medical journals of this city be requested to publish the same in their next issue.

Resolved, That we attend the funeral of our departed brother in a body.

Resolved, That the proceedings of this meeting be spread upon the minutes of this society, dressed in mourning, to become thus a part of its current history.

D. HALDERMAN, M.D.,

W. H. DRURY, M.D.,

R. M. DENIG, M.D.,

Committee.

A WANT LONG FELT.—Columbus has rapidly increased in size in the past decade, and now needs only a few more doctors and druggists to make it happy. There are several corners unprovided with a drug-store, and the patients outnumber the physicians at least two to one.

STARLING MEDICAL COLLEGE.—The many friends of this venerable institution will be pleased to learn that it enters upon its thirty-second year in a most flourishing condition. Being entirely free of debt, with an exceptionally fine building and hospital, well provided with illustrative apparatus and a rapidly increasing library, it has every facility for doing good work, and no need to seek patronage in any other way than by strictly honorable competition.

CORRESPONDENCE.

168 EAST SIXTY-FIRST STREET,
NEW YORK, June 30, 1878.

Editor Ohio Medical and Surgical Journal:

MY DEAR DOCTOR: In my last letter, the painful duty devolved upon me to inform your readers of the death of my lamented friend, Dr. E. R. Peaslee. The vacancy caused thereby in the New York Woman's Hospital, where the doctor held the position of one of the attending surgeons, has been filled by the appointment of Dr. Nathan Bozeman, for several years past a resident of this city, formerly of Montgomery, Alabama. Dr. Bozeman has labored faithfully for the past twenty five years for advancing the science of gynecology, and has earned deservedly a world-wide reputation for his originality of devising operations, in inventing instruments, pessaries, etc., which, in my opinion, though not yet in general use, are the best in existence. His chair for operating in the knee-chest position, is a marvel of simplicity and excellence. It weighs only seventeen pounds. It can be placed upon and secured to a small-sized table, and by fastening the patient upon it in the knee-chest position, it renders the operator entirely independent of the patient's movements. The abdominal muscles are relaxed, the vagina is widely opened, respiration and circulation are in no wise disturbed, while the patient can be kept under the influence of chloroform for any length of time, as well as in any other position; neither does vomiting disturb the progress of the operation to any unpleasant extent. This table proved to be a perfect success in four cases of vesico-vaginal fistula, operated upon by Dr. Bozeman in the General Hospital in Vienna, last year, in the presence of the most distinguished surgeons. His speculum, which is two and three bladed, should be in the hands of every practitioner who treats the diseases of women. The speculum proper is two bladed; the addition of a depressor, also devised by the doctor, makes it three-bladed. Dr. Bozeman's first description concerning his speculum, appeared in the *New York Medical Record*, January, 1868. The drawings of his table and speculum are contained in his article, published in 1869—"Bozeman's operation of vesico-vaginal fistula without the aid of assistants." In the *New York Medical Journal*, February, 1869 (report of Dr. Bandl in the *Wiener Medi-*

cinische Wochenschrift, 1875, Nos. 49 and 52), Dr. Bandl, after referring to the labors of Diffenbach, Wutzer, Jobert (de Lamboile), Mittauer, Hayward, Sims, Simon, Emmet, Ulrich, Neugebauer, and Braun, as directed to the improvement of the operation for vesico-vaginal fistula, continues: "The most effective and indefatigable advocate of this operation is Bozeman, who, in 1856 [Bozeman: Remarks on vesico-vaginal fistula, Montgomery, Alabama (from the *Louisville Review*, May, 1856); Urethro-vaginal and vesico-vaginal fistules (*North American Med. Chir. Review*, for July and November, 1857); Urethro-vaginal, vesico-vaginal, and recto-vaginal fistules (*New Orleans Medical and Surgical Journal*, for January, March, and May); *ride*, also, Bozeman's operation, reported by Robert, of Paris, in the *Gazette des Hôp*, 1859, No. 1] published his first report of four cases cured by means of an original suture designed by himself. This was followed, in 1857, by a report of fifteen successful cases, mostly of a difficult nature. In 1860, Bozeman performed a number of most successful operations in London, Edinburgh, Glasgow, and Paris, in the presence of the leading specialists. More recently—within the last two or three years—he operated several times in Professor Simon's clinic, with his known skill and the full approval of Professor Simon. In Vienna he operated in Professor V. Braun's clinic—three of the most difficult cases, and a fourth of a more favorable nature. For three months this indefatigable surgeon remained in Vienna, and succeeded in giving relief to four unhappy and miserable women, operating only once in each case."

Bozeman's method of operating for vesico-vaginal fistula is already well known throughout the civilized world, but its great importance warrants me in herein again referring to it briefly, for the benefit of some of your numerous readers who may not be familiar with it. The description of the method given by Bandl is very accurate. I, therefore, copy it, as including the most important points regarding Bozeman's procedure for the cure of vesico-vaginal fistula: "The great success lies in the preparatory treatment which Bozeman was the first to introduce. Dr. Emmet, the distinguished Surgeon of the New York State Woman's Hospital, justly says that the whole secret of success depends upon it. He enlarges the vagina with glass plugs; inaccessible fistules, distorted by cicatricial tissue, are made accessible by the preparatory treatment of incision and dilatation (gradual, often continued for several weeks). He insists upon careful exploration with the finger and the eye, and the incision and division of each cicatricial band and of each tract of thickened tissue. A thin, cicatricial band, almost invisible, may cause the operation to fail. This method renders it possible," Bandl further says, "to unite fistulous edges which, heretofore, it was thought could be treated

successfully only by diagonal or transverse obliteration of the vagina (Kolpo Kleisis). The beginning of the procedure is, to pay attention to the excoriations and abrasions of the vagina and of the external genital organs. He cuts off the hair found in the posterior vaginal angle, usually incrustated with deposits of urinary salts, greatly irritating the excoriated surfaces and causing great distress. After this, a solution of argenti nitr. 1 drachm to 1 oz. of water, is applied to all the abraded surfaces inside and outside the vagina. This relieves the patient from pain. During the first examination, resisting cicatricial bands are divided and the vagina dilated as far as possible by the fingers. After this dilators, of gradually increased sizes, are kept constantly in the vagina. The latter consist of balls and cylinders of hard rubber or glass. The cylinder, of proper size (there being several numbers, to suit each case), is left in situ from ten to twelve hours, with a string attached to an opening at the distal end for its readier removal. It is then withdrawn and the vagina flushed with tepid or cold water, or the patient takes a hip bath, in order to recover from the first proceeding. The dilator softens the tissues; cicatricial bands, heretofore unrecognized, are now easily perceived after three or four days, and the bladder, which had projected outside the vagina, is often found to have resumed its former place, when the patient is placed in the knee-elbow position. The rubber ball also prevents, oftentimes, the dribbling of urine from the fistula, and the woman is thereby enabled to remain dry in bed for hours. While thus treated, she can attend to her household duties and enjoy comfortable nights. Professor Braun, of Vienna, highly appreciates the great value of this preparatory treatment, and has adopted the entire method of Dr. Bozeman's operations. Simon operates in the exaggerated lithotomy position; Baker Brown, and Ulrich recommend the one used for stone in the bladder, while Sims and Emmet have adopted the left-lateral. Bozeman, however, fastens his patient upon a support or chair, designed, as stated above, by himself, for operations on the female sexual organs."

Bandl states that he knows of no other two or three-bladed speculum which equals Bozeman's in usefulness. Dr. Birmingham, editor of the *New York Hospital Gazette*, and surgeon of the Samaritan Hospital in this city, where the diseases of the rectum are treated exclusively, similar to the St. Marks Hospital in London, England, expressed to me his conviction that Bozeman's speculum, both for the rectum and the vagina, was the best he ever saw or used. This instrument enables the surgeon to minutely examine, and to perform every operation on the cervix and vagina, in whatever position the patient may be placed, and without much assistance. He employs four different sizes, according to the size

of the vagina, making it a rule, the larger the fistula the smaller the speculum.

The method of paring the fistulous edge does not differ from that used by Simon, as demonstrated in his work, published in 1862, page 53, and also approved by Ulrich, of Vienna. He avoids the flat, funnel-shaped freshening, as this affects principally the vaginal surface, and is now rarely advocated by anybody (except Sims). In cutting the edges of the fistula, and applying the sutures, Bozeman does not pull down the uterus (as first recommended by Jobert and afterwards by Simon), even when the seat of operation is in the upper part of the vagina. Simon uses Muzeux's forceps, and then applies a noose. Ulrich invented double hooks to accomplish the same end.

Bozeman employs knives for paring the edges—some straight, some bent—with cutting edges to the right and left side. He also uses scissors, right and left, for the purpose of forming the angle. For steadying the edges, small hooks are used. Any bleeding during the operation, is carefully stopped by cold water injections.

The suture employed for uniting the edges is quite peculiar (the button suture), and he, like Sims, prefers silver wire in its construction. But while Sims has abandoned his clamp suture, which he recommended in 1852, and now simply twists the wire, Bozeman still adheres to his suture as first described by him in 1856, without any change, in spite of the many attacks made upon it. After the wires are passed through the borders of the wound, he fastens them, by means of small perforated shot, to a perforated plate of lead, which rests upon and is closely adapted to the united borders with a concave surface. He lays more stress upon the concave plate keeping the edges together, than upon the employment of silver wire; he merely uses this because it can be fastened more conveniently to the lead plate than silk threads. In every case, Bozeman uses straight, spear pointed needles, of various lengths. He uses but few sutures, about one centimetre apart; the same distance from the edges of the wound, they perforate the vesico-vaginal wall entirely, leaving out only the mucous membrane of the bladder. Bozeman always introduces a catheter into the urethra whenever there is a large fistula. Great attention is also paid to the situation of the ureters in the excised surfaces, so as to prevent their being included in the sutures. As soon as the sutures are completed, the bladder is cleaned from blood with cold water.

Bozeman's suture has been imitated by many, especially in England, Scotland, and France. Baker Brown, already in 1865, had operated on and published ten cases of fistula, varying in size, position and difficulty, according to Bozeman's method.

Professor Simon, of Heidelberg, shortly before his death, had ordered Bozeman's instruments and operating chair to be copied.

Concerning the after-treatment, Bozeman leaves an elastic catheter (medium sized) in the bladder, until the sutures are removed. Emmet does likewise, but applies a metallic one (Sims's). Simon and Ulrich declare it unnecessary and even obnoxious to leave the catheter permanently in the bladder. Bozeman has lately discarded the use of the permanent catheter, but draws the water every four hours. During the first days of the operation, opium is ordered by Bozeman. The sutures were generally removed in each case on the seventh day after the operation.

Like any other surgical operation, the preparatory treatment requires care and circumspection; and it may be stated that the incision should not be made too boldly, since the peritoneal cavity or rectum may be injured. A finger inserted into the rectum for guidance, may greatly diminish this danger. Peritonitis may follow if proceeding too rapidly. In order to secure the best results from preparatory treatment in such cases, time is of no consideration.

The description of Dr. Bozeman's valuable method of operating for vesico-vaginal fistula, etc., I have abstracted from the reprint of the *Richmond and Louisville Medical Journal*, 1877. A similar abstract I have made from Dr. Bandl's recent report regarding the great value of Bozeman's method for the cure of *utero-vesico-vaginal fistula*, which abstract those of your readers interested in the subject will find published in the *American Journal of Obstetrics*, for July, 1878, edited by Paul F. Mundl.

Surgeons dreaded to operate for vesico-vaginal fistulæ, on account of their inaccessibility to the touch, and the eye as well, and for the reason that most of the ablest surgeons, after repeated trials, failed to cure their unfortunate patients. I well remember, in 1872, when house-surgeon of the Mount Sinai Hospital in this city, I had a case of vesico-vaginal fistula in my ward, which I requested the late Dr. E. Krackowitzer to operate upon, since he was the visiting surgeon of the institution at that time; but he declined, stating to me that there was no more difficult operation in the whole range of operative surgery, and he disliked to undertake it, as he had such ill success in similar cases, which he had repeatedly attempted to close. Dr. G., of the same institution, during his service, did operate twice on the same patient, but the result was a complete failure. The patient then went to the Woman's Hospital, and was, however, cured there by one single operation.

Professor Hyrtl, in his celebrated work on *topographical anatomy*, speaking of the facility and ease with which the posterior wall of the bladder can be felt through the vagina, thinks that a very voluminous stone in

the female bladder could be removed very readily by splitting the anterior wall of the vagina and the posterior wall of the bladder (the septum vesico-vaginal), and be thus very readily extracted; but, he says, the danger of a remaining vesico-vaginal fistula, which has thus far baffled the most skillful operators, and has resisted all modes of treatment, has frightened surgeons from undertaking it.

It would be merely waste of time were I to enlarge upon the difficulty of operating successfully for vesico-vaginal fistula—much less would be the result by operating for uretero-vesico-vaginal fistula, if any living surgeon had ever undertaken it—but the literature of the subject, so carefully studied by Bandl, shows that thus far only five cases are to be found recorded; two of these were reported by Simon, of Heidelberg, one by Alquié, and one by Panas, and the fifth case has been reported by Landau. Simon was unable to deal with these cases, except by obliterating the vagina, an operation he termed “Kolpo Kleisis,” while Bozeman, by his painstaking method of gradual dilatation, has succeeded in curing similar cases directly by closure, without unsexing his patients.

The different methods of operating for high vesico-vaginal, utero-vesico-vaginal, and uretero-vesico-vaginal fistula, or recto-vaginal fistula, have led to a little controversy, though a very friendly one, between our countryman, Dr. Bozeman, on the one hand, and the eminent, deceased German surgeon, Dr. Simon, of Heidelberg, on the other, in which, shortly before his death, Simon claimed that his method was the only successful one, namely: “Kolpo Kleisis;” to which Dr. Bozeman answered by a paper written by him under the title: “Kolpo Kleisis, as a means of treating vesico-vaginal fistula: Is the procedure ever necessary?” This latter may be found published in the “Transactions of the American Medical Association, 1877.”

After twenty-five years' patient labor, as already stated above, Dr. Bozeman has at last received his just reward, by having been appointed the successor of one of the greatest of ovariologists, in the New York State Woman's Hospital. But not only has Dr. Bozeman succeeded in curing the most loathsome of the diseases of women—the fistula above referred to—but he has already, since his appointment a few months ago, performed, in my presence, and that of Dr. Emmet, Dr. Charles C. Lee, Dr. Hunter, Dr. Chanvau, and others, two *double ovariectomies*, on Mrs. Sarah Coffee, aged thirty-three years, and Miss Mary McCarthy, aged forty-five years. The one was operated upon May 13, and the other May 17. Both ladies left the hospital CURED. Both cases will be published in detail, including the after-treatment, and the microscopic examination made by myself and Dr. Charles Heitzmann, of 37 West Forty-fifth street, in this city.

On June 28 last, Dr. Bozeman gave a reception at his elegant residence, 296 Fifth avenue, in honor of his guests, Dr. Richardson, of New Orleans, Louisiana, President of the American Medical Association, lately assembled in Buffalo, and Dr. Gross, of Philadelphia. Professor Richardson is the author of a text-book of descriptive anatomy, published in 1867, by Lippincott, of Philadelphia. His standing in the profession is attested by the great honor conferred upon him, of which any medical man may be proud, having been elected presiding officer of the American Medical Association. The other distinguished guest, Dr. Gross, has made his name famous by his celebrated work on surgery. Over a hundred physicians of this city and vicinity, availed themselves of the kind invitation of Dr. Bozeman, whose hospitality made one and all feel at home at his mansion, and spent an exceedingly pleasant evening together. Among the distinguished men present, want of space and time will permit me to name only a few: Professor Sands, Professor Post, Dr. Charles F. Taylor, the celebrated orthopedic surgeon; Dr. Sprady, the able editor of the *New York Medical Record*; Dr. Charles C. Lee, Dr. John C. Peters, President of the New York County Medical Society; Dr. Charles Heitzmann, Professor Fessenden, N. Otis, Dr. McPartin, Surgeon United States Army, and Brevet Brigadier General; Dr. Chamberlin, all of New York; and Dr. Skene, of Brooklyn, were among the number. The doctors assembled at half past eight o'clock. The shaking of hands, the introductions, the mutual greetings, and salutations of friends were a pleasant sight to behold. The conversation was, of course, principally on medical topics. The learned gentlemen, forming into groups of three or more, and discussing the interesting events of the day, were invited down stairs at about half past ten o'clock, by the amiable host, and did full justice to the delicacies of the season, which were profusely spread before them. Even champagne and the costliest wines flowed in profusion, and the quantity consumed convinced me that even doctors know how to appreciate a good glass of wine. This champagne supper, which could not have been excelled even by Delmonico's, was wound up by the enjoyment of the choicest Havana cigars which the New York market affords. On the whole, this reception will hardly ever be forgotten by those who participated in it, since every one present, without exception, retired, about midnight, highly pleased with the pleasant evening spent in the distinguished company of the most celebrated medical men in our country.

I have, on another occasion, already referred to the excellence of the New York State Woman's Hospital, while Dr. Peaslee lived. I allude to it again for the purpose of inviting our western medical friends to visit it, if within their power, to witness the great triumphs achieved there in

the domain of gynæcology, and the excellent, nay, unsurpassed, results obtained there in gynæcological surgery. In a former letter, I also expressed my astonishment that neither the cold-water treatment nor Lister's antiseptic method of operating had been introduced there up to the time of writing my letter, sometime last year. But now, I am happy to be able to state that both have come into use in the Woman's Hospital. Dr. Thomas has already read a paper before the New York Academy of Medicine, on the antipyretic effects of cold water in the treatment of fever after ovariectomy, and he found it the best, safest, and surest remedy at our command, if judiciously and scientifically applied. But, water used in the treatment of fevers is a two-edged sword, which one must know how to use. I cannot help laughing, sometimes, when I hear this method decried by persons who know no more about its proper application than the man in the *moon*. In their hands, I am sure, it will do harm. Before resorting to any powerful remedy—and water is surely one of these—we must know when and how to apply it, if we wish to derive the benefits from it that result in the hands of trained hydropaths. The antiseptic treatment of wounds has also found its application at the Woman's Hospital. Bozeman and Thomas use it in all their surgical operations. Dr. Robert F. Weir read a paper on the subject, some time ago, and showed how candid and conscientious a surgeon he was, by frankly stating his conviction that he saved many lives by operating after Mr. Lister's plan. Dr. William T. Bull, house-surgeon of the Chamber Street Hospital, in this city, a very clever, scientific, and promising young surgeon, also spoke highly in its favor from actual observation and study of cases under his care. Among our leading surgeons, to my knowledge, Drs. Van Buren, Stephen Smith, William A. Hammond, Weir, Bull, Thomas, and Bozeman all are delighted with the good results obtained by following Lister's method. So the world moves on, and truth, after all, gains the victory over ignorance, sham, and arguments of hollow phrases and empty words. I hope there is, to-day, not one surgeon who belongs to the numerous readers of this journal, but will use, if he has not already done so, Lister's antiseptic treatment.

Dr. Thomas, since his election to the honored post of Vice-President of the New York Academy of Medicine, has become one of its most active members. Besides the paper referred to, he read before the academy an essay on the transfusion of milk into the veins of patients, where formerly blood was used for the purpose. He terms it "Intravenous injection of milk," and cites cases where human lives were saved by it, that would otherwise have been lost. He injects milk immediately after being drawn from the udder—from eight to sixteen ounces at a time. Dr. Du-

puy made experiments on rabbits, at Dr. Thomas's request, and found that fresh milk injected into their veins was innocuous; but if used after having stood for an hour or more, the animals invariably died. Dr. Jacobi thinks this can be explained by the fact that the blood is an alkaline fluid, and if acid milk be used, this acts as a poison. He, therefore, thinks the milk should always be tested, and if found to be acid, to add some alkali—bicarbonate of soda, for instance—and make it alkaline.

A third paper read before the academy, by Dr. Thomas, was entitled, "Elytro laparotomy to takè the place of the Cæsarean section." Those interested in the subject will find it published in Dr. Mundè's *American Journal of Obstetrics*, two or three numbers back. About the date of the number I am not positive.

Dr. William A. Hammond read an exceedingly interesting paper before the New York Neurological Society, June 3, 1878, entitled "On obscure abscesses of the liver, and their treatment." The June number of the St. Louis *Clinical Record* contains the article in full.

Finally, I have to refer to the indictment found by the grand jury of this city against our so-called Board of Health. "*Board of Death*" would, perhaps, be a more deserved title of this negligent, pretending, and worthless board. The streets of New York are still the filthiest in the civilized world! The most nauseous, foul, stinking, and pestilential odors still permeate the atmosphere of this over-taxed city! All these worthies do with the hundreds of thousands spent by the city through them, is to fill their otherwise empty bellies, and do nothing for the sanitary improvement of this ill-governed city, which could be made one of the healthiest in the world.

Respectfully and truly yours,

RUDOLF TAUSZKY.

REVIEWS.

Physics of the Infectious Diseases, comprehending a Discussion of certain Physical Phenomena in connection with the Acute Infectious Diseases. By C. A. Logan, A.M., M.D. Chicago. Jansen, McClurg & Co. 1878. 12mo., 200 pp. \$1.50.

Laborious compilations and careful abridgments of older works have been ground out of the medical press for so long a period, that an original and gracefully written book is to be hailed with peculiar satisfaction. The little volume whose title is recorded above, is in the latter category, containing original theories and interesting facts, told in an unassuming

and entertaining manner; and what is even more important, they are, if true, the beginning of great things, and calculated to throw a flood of light on our knowledge of both disease and life. It is, in a word, a new philosophy of disease. Like all new theories, however, these should have, as indeed they court, a full investigation, "for before these rose up Thendas, boasting himself to be somebody," and the pathway through the desert of pathology may be said to be thickly strewn with the bleaching bones of bygone theories. The views of the author were to a great extent formed from an extended observation of the physical and vital phenomena of South America, during a four years' residence in Chili. They may be formulated as follows, using his own words as far as possible: First, there are certain districts in the strip of country west of the Andes which are peculiarly free from infectious diseases. Secondly, these are also the districts in which earthquakes are most liberally distributed; "where the earthquake energy is most strongly and constantly developed, the existence of a large number of the infectious diseases which devastate other parts of the world is unknown." The rainfall is also very slight. To a believer in the law of compensations this is eminently reasonable, since it could not be expected that dwellers in an arid and earthquaken country should be called upon to suffer from anything else. They have enough of ill. But the author finds a more direct causal relation, since he is led to believe that earthquakes are due to electrical disturbance, or, as he phrases it, "terrestrial lightning." The Andes form an impassable barrier to the trade winds, and both the moisture and electricity with which they are laden are therefore precipitated on reaching this mountain chain, which leads to the peculiar condition found on the lee side of the mountains. As a corollary to this, he next calls attention to the fact that ozone is freely generated during an earthquake, and the conclusion is reached that the agencies which cause infectious diseases are destroyed or rendered inoperative by ozone, or, at least, that it is the chief actor.

From this he passes to a consideration of the how, which constitutes the second part of the book, and is really not necessarily connected with it. For in his explanation of this group of phenomena, he has fallen upon a theory which seeks to explain much more, and which should, indeed, be studied by itself, and not be judged by the preliminary theory with which, as just said, it has but a slight connection. Before taking it up, it will be in order to discuss the first part, in which we shall find some very doubtful facts.

First. The western slope of the Andes, especially in the shaken districts, is unusually healthy.

Second. Earthquakes are of electrical origin, and furnish ozone as a great purifier and disinfectant.

Concerning Ecuador, and especially Quito, he quotes from Hassaurek: "Quito, with its neighborhood for miles around, may be said to be one of the healthiest localities on the globe. Consumption and pulmonary diseases are scarcely ever heard of. The fevers peculiar to tropical countries are unknown," etc. The author comments: "To this statement it must be added that the city enjoying such rare immunities lies at the base of Mt. Pichincha, and within calling distance of Chimborazo, Cotopaxi, Saugai, Tunguragua, and more than a dozen others of the volcanic kings of the Andes, and where the purely *volcanic* earthquakes, if the expression may be used, are largely represented, as well as genuine storms of thunder and lightning." A similarly glowing account is given of Payta, a seaport of Peru. "Several of the inhabitants having died from time to time of old age and violence, it was thought necessary to have a graveyard." The rest of the story is amusing, but not relevant. Of Bolivia he says: "No epidemics are known to exist, and were it not for the prevailing habit of killing each other in revolutions, it is believed by those competent to judge, that no region of the known world could present such tables of health and longevity."

Of Chili the author speaks from a personal and closer observation, which is further evidenced by the rose-colored view of the healthfulness perceptibly fading. He still maintains that it is unusually healthy, and quotes a long list of diseases, such as cholera, yellow fever, scarlet fever, and diphtheria, as unknown in Chili; but he very honestly sets down erysipelas as occasionally epidemic and liable to assume the hemorrhagic and gangrenous type, and a sufficient array of other maladies to show us that the best that can be claimed is that they are fairly off, in spite of very unhygienic habits and surroundings. Of small-pox, which occasionally takes off fifty per cent. of existing cases, he notes the remarkable "inefficacy of vaccination as a preventive, and the non-protective power of one attack against another." All this he attributes to the localities being on the lee side of the Andes, and thoroughly ozonized. The earthquake has always had a good opinion of itself. Says the Seismos, in Faust (Walpurgis nacht):

"Das hab' ich ganz allein vermittelt
Man wird mir's endlich zugestehn:
Und hätt' ich nicht geschüttelt und gerüttelt
Wie wäre diese Welt so schön?"

Which may be freely rendered: "That I have been at the bottom of all this, is now conceded to me; and had I not shaken and jolted, how would this world have been so fine?" or healthy, as Dr. Logan would add. But, unfortunately for the reputation of the earthquake, the windward side o

the Andes, where earthquakes are rare, has a health rate in no wise inferior.

Dr. Galt, writing from Iquitos, Peru, in the *American Journal of the Medical Sciences*, for April, 1872, says of the Upper Amazon: "Through this dense mass of vine, parasite, and foliage the sun rarely ever makes its way, and there is a damp coolness, especially about the parts on the river borders," etc., which is in remarkable contrast to Chili, and yet "the most notable feature of the climate of the Upper Amazon, on the borders of the main river, is its healthfulness, especially its freedom from the presence of malarial fevers—a circumstance which has been noticed by all travelers on the whole length of the Amazon." The catalogue of diseases in this locality is also singularly like that of the other side of the mountains, and antiseptic surgery seems to be little needed. "There is no place where I have seen wounds on the Indian (or other native) heal so rapidly or so easily as on this river."*

Other localities of great healthfulness, but without earthquakes, might be enumerated; but the Amazonian forests are so entirely antithetical as to be enough to throw some doubt on this branch of the theory. There is also some evidence as to the direct evil effects of earthquakes. Bickmore† writes concerning Amboina, that in 1835 a series of violent shocks continued for three weeks. "Up to that date Amboina had been a remarkably healthy place, but immediately afterward a gastric-bilious fever broke out, and continued until March, 1845. On the 20th of July of that year another heavy earthquake was experienced, and this disease at once began again, but had somewhat subsided, when, on the 18th and 20th of March, 1850, another severe shock occurred, and again, for the third time, it commenced anew. This time both the governor and the assistant resident died"—probably not quite persuaded as to the healthfulness of earthquakes.

The treatise of Webster on epidemic and pestilential diseases is full of accounts of the association of earthquakes and fevers, but not often detailed with the accuracy demanded by modern science. A survey of seismological literature, however, will amply show that the attempt to whitewash the character of the earthquake is attended with greater difficulties than beset the latest biographer of Henry VIII. in a procedure of equal benevolence. As to the electrical nature of earthquakes, the author has indeed furnished some fresh facts, although the theory itself is not new.

* Galt, *Am. Journ. Med. Sciences*, Jan., 1873.

† *Travels in the East Indian Archipelago*, 1869.

Sir W. Hamilton,* in 1870, notes the connection between volcanic eruptions and electricity; and Ponton† says that “some observers have been led to attribute the shock itself to a strong electrical discharge passing through the strata, between the outer air and some surface underneath highly charged with electricity of another kind. The connection between electricity and earthquakes, however, is yet very obscure; and the electrical tension is quite as likely to be the result of the underground disturbance which causes the shock, as to be in any case the cause of the shock itself.” But, Humboldt, in the present state of our actual knowledge, would seem to settle the question definitely. In speaking of the atmospheric disturbances supposed to precede earthquakes, he says:‡ “The fallacy of this popular opinion is not only refuted by my own experience, but likewise by the observations of all those who have lived many years in districts where, as in Cumana, Quito, Peru, and Chili, the earth is frequently and violently agitated. I have felt earthquakes in clear air and a fresh east-wind, as well as in rain and thunder storms. The regularity of the horary changes in the declination of the magnetic needle and in the atmospheric pressure, remained undisturbed between the tropics on the days when earthquakes occurred.” And again: “In the many other earthquakes which I have experienced on the elevated plateaux of Quito and Lima, the inclination, as well as the other elements of terrestrial magnetism, remained always unchanged.” If any one could be trusted to remain a cool observer of these terrible phenomena, the author of the *Kosmos* would certainly be the one. Under any circumstances, the new facts adduced by Dr. Logan do not explain the occurrence of earthquakes in districts entirely devoid of the peculiar conditions found in the region under discussion. Thus, in Perthshire, shocks were experienced almost daily from 1839 to 1847, which is inexplicable on this theory. But whether earthquakes are electrically induced, or the old igneous theory, or Pouillet Scrope’s aqueo-igneous fusion theory be true, the fact that electricity and ozone are at times concomitants of the shock, is probably true. Even then we are little bettered, in the existing state of our acquaintance with ozone. In the report of the Tennessee Bureau of Agriculture, Commissioner Killebrew, in speaking of the healthfulness of the State, says of ozone: “Happily for us, the winds from the Atlantic, Pacific, and the Gulf, passing over great plains, give up this noxious ingredient before reaching our borders!” Whether Dr. Logan succeeds in demonstrating that it is not noxious, but a great eliminator of disease, we leave the reader to find out for himself from the book, being ourselves but indifferently convinced of anything attributed

* On volcanoes, 1774. † Earthquakes and volcanoes, 1872. ‡ *Kosmos*, v. 1.

to ozone. The whole matter is, however, well worked up, and well worth a more careful examination than can be given by a single reading. The second part of the book is concerned in the building up of a new vital philosophy; and to get a firm foundation, the author begins with some remarks on the nature of forces and the ultimate constitution of matter. From this he passes to vital chemistry, somewhat as follows: Life begins, resides, and ends within the central nervous axis, from which an invisible current flows to all parts of the body. "Each atom of the human body possesses what may be called a *vital polarity*, and the precise atomic constitution or arrangement of each molecule of any particular tissue, represents the *aggregate* polarity of all the atoms composing it." For "just as certainly as that inorganic bodies are built up of molecules, which assume the relative situations demanded by their polar forces, and thus give form to the particular body, just so certainly is the organic body constructed upon similar principles." "Vital chemistry rises above the circumstance that carbon has a strong affinity for oxygen; chlorine for hydrogen, etc.; and taking a certain number of atoms of carbon, nitrogen, oxygen, and hydrogen, forms perhaps a molecule of fibrous tissue; or perhaps a molecule of cutaneous tissue; or perhaps a molecule of cellular tissue. There is apparently no limit to the diversity of combination in the high organic molecule." These things being so, disease, under certain limitations, "involves a disturbance of the individual molecular energy; and to just the extent of diseased structural action, is the extent of the departure from the normal molecular constitution." This disturbance is effected in any case by means of "an infectious molecule," which has the property of altering "any other molecule brought within its influence;" for it, too, has a "representative polarity, which gives to it the infecting, shall we say *fermentative*, power; which power inheres to the molecule until other forces break it up or rearrange its atoms." To ozone the rearranging role is assigned, and the *experimentum crucis* to which we are referred, is the fact that milk is soured by a thunder storm, or, chemically, that the atoms of the milk sugar are rearranged so as to present lactic acid. Besides this main theory, various succedaneous hypotheses are advanced, and a molecular therapeutics is also foreshadowed. Space and time forbid any present discussion of these topics. They are defended with ability, and are broached in an earnest and felicitous manner. The whole book is full of suggestiveness, and is calculated to awaken thought and research, whether its conclusions be true or but half truths. And we cannot do better by our readers than to counsel them to study it and follow out some of the many suggestions its careful perusal will be sure to arouse.

H. G. L.

MICHIGAN STATE BOARD OF HEALTH.

The regular quarterly meeting of this body occurred July 9, 1878, at Lansing, all the members being present, as follows: Dr. R. O. Kedzie, President; Dr. H. O. Hitchcock, Dr. H. F. Lyster, Hon. LeRoy Parker, Rev. D. C. Jacokes, and Henry B. Baker, Secretary.

The subject of a text-book on hygiene for common schools was discussed. No members of the board had seen a book suitable for such use, and it was thought very desirable that one be prepared.

Dr. Hitchcock then offered the following resolutions, which were adopted:

Resolved, That this Board respectfully request the Board of Regents of the University of Michigan, and the Trustees of the Detroit Medical College, to establish in their respective institutions, at the earliest practicable moment, full chairs of public hygiene, and fill the same with thoroughly competent professors.

Resolved, That this Board respectfully request the controlling boards of all the collegiate institutions, as well as the high schools of the State, to see that a course of instruction in public hygiene be given in each of their several institutions.

Dr. Lyster mentioned that, in the interests of the public health, he had delivered a course of lectures before the medical class of the University of Michigan during the past six months. He presented a syllabus of each lecture delivered.

Dr. Kedzie presented some results of his investigations on the subject of lead poisoning by the use of tinned ware and other vessels containing lead.

He said: It is well known that there are substances actively poisonous when taken in large doses, that, when taken in small but repeated doses, often produce effects so obscure that they may be mistaken for the symptoms of some chronic disease. Lead, arsenic, antimony, and copper are examples. The chronic poisoning which may be caused by minute doses of any of these metals, and the possibility of mistaking such metallic poisoning for some disease of a different nature, should warn us against their use, or make us careful and guarded while using them. Vessels in daily use for preparation or serving of food are especially liable to affect the physical condition if they contain any material which will insidiously sap the foundations of health and strength.

Culinary vessels, which are cheap, durable, and convenient, and without injurious influences on the health, bear an important relation to the comfort and well-being of the people. Of all cheap metals for such use, tin fulfills these conditions better than any other. It is comparatively cheap, resists oxidation by exposure to air and water, has a white color, is not readily dissolved except by strong mineral acids, and the only salt

of tin which is actively poisonous is the chloride, which will never be formed in the domestic use of tin vessels. The readiness with which iron surfaces may be coated over with it contributes to its valuable uses.

Unfortunately, while tin is comparatively cheap and safe, lead is cheaper, and very dangerous. Yet the two metals readily unite, forming an alloy which may be used in place of tin, but which will generally oxydize and be dissolved by acids more readily than either metal of which it is composed. The danger of poisoning by the use of such metals is very great. The attention of the State Board of Health has been called to this subject by a letter from Dr. Dorsch, of Monroe, who writes that he has seen cases of *paralysis agitans* which had been taken for chorea, although other symptoms of lead poisoning were present, and investigation showed, in all cases, that cooking and eating with tin spoons, or in earthen and iron vessels with a coat of lead, were the cause. The same is true with milk vessels. The acid dissolves the lead salts, and children are poisoned, dying by tubercles of the brain, meningitis, fits, and paralytic affections.

Grown persons do not escape, although resisting longer. A similar danger arises from tea and coffee pots of earthenware or composition metal, from tin sieves and tunnels, and almost all cooking utensils used by the poor. They are about equally as dangerous as the adulteration of food and spices, so common all over the country.

The danger of lead poisoning is a matter of great importance, because so large a proportion of our population employ tinned vessels for culinary and table use. The alloy of tin and lead oxidizes much more readily than pure tin, and the oxide of lead is very soluble in acetic acid or vinegar, or lactic acid, forming sugar of lead. It also forms salts with malic and citric acids, which are contained in apples, cherries, gooseberries, currants, or any acid fruits. When cooked in vessels containing lead, or even placed in them for some time, they are liable to take it up, and become very injurious thereby, because all salts of lead are poisonous. In this way a large portion of our daily food may be a vehicle of poison, if prepared or contained in vessels containing a sensible amount; and this danger is greater because the compounds of lead are cumulative in their influence. A person may not be poisoned by one or two small doses, but minute doses, taken for a long time, will break the health, and even destroy life.

The doctor said that of a large number of specimens of tin plate, tinned iron, and other culinary articles examined by him, he found in almost every instance an alloy with lead, and it was often present in large quantities. It is an astonishing fact that a large proportion of the tinned wares in the market are unfit for use, because of the large quantity of lead with which the tin is alloyed.

TEST FOR LEAD.

Place a drop of strong nitric acid on the tinned surface, and rub it over a space as large as a dime. Warm it very gently till dry, and then drop two drops of a solution of iodide of potassium on this spot. The bright yellow iodide of lead will form on the spot if the tin contains lead. This test can be rapidly applied, and the results are decisive.

The doctor was informed that a peculiar kind of tin plate—the tinning composed mostly, if not entirely of lead—was coming into general use for roofing eave troughs and water pipes. The lead thus exposed would be in conditions favorable for oxidation, and a quantity of oxide and carbonate of lead would be washed away in the rain water and deposited in the cistern with every storm. Susceptible persons may be poisoned by washing in such lead-charged water, and all persons drinking it, even after it has been filtered, will be in danger of chronic lead poisoning.

Earthen vessels are usually glazed to overcome their porosity. In many cases this glazing consists of fusible silicates of the alkalies, and alkaline earths. These have no injurious influence on the health. Oxide of lead, when added to the alkaline silicates, borates, etc., makes a very fusible and closely adhering glazing, and is sometimes used, but its use is very dangerous, especially if the vessel contains acid substances. The glazing decomposes, and lead salts, from which either dissolve, or are mechanically suspended in the contents of the jar, and there is great danger of chronic lead-poisoning. This danger is, unfortunately, very common.

ENAMELED IRON VESSELS.

Within a short time, an enamel has been successfully applied to vessels made of iron plate, the enamel, or glazing, taking the place of tin coating on tin plate. As these vessels are coming into general use, it is a matter of public interest to know what would be their influence on public health. He said that a culinary vessel, to be safe, must be impermeable by water and grease. Metals, especially where vessels are made without seams or joints, such as pressed tinware, glass, and many kinds of porcelain, are admirable in this respect. Glazed crockery, after the glazing is fissured, is very poor in this respect. If the new enameled ware shall prove satisfactory, it will be an important acquisition. At the present time the most hopeful outlook for good, safe, and cheap culinary vessels lies in the direction of some fixed unabsorbent enamel for pressed ironware which will maintain an unbroken surface under all conditions of domestic use.

Another indispensable condition for a safe culinary vessel is that it shall not contain any poisonous material by which the food cooked or contained in it shall be injuriously affected.

The specimens of granite ware which he had examined failed to reveal any poisonous or injurious substance. He regarded it as a safe material to use, but feared its power to resist the tendency to crack after it had been frequently heated. The marbleized ironware presented very different results. The enamel was found to contain a large amount of lead, and even traces of arsenic were obtained from the enamel by the use of Marsh's apparatus. In a quart basin of this marbleized ironware he placed eight ounces of water containing five per cent of nitric acid, heated it boiling hot, and kept the whole in a warm place twenty-four hours; then evaporated the dilute acid to dryness, dissolved the residue in water, filtered, and from the filtrate precipitated the lead, obtaining in this way what was equivalent to twenty-three grains of lead. In a similar basin of marbleized ironware, eight ounces of vinegar (free from lead) were placed and kept in a warm place twenty-four hours, and then treated in the same manner as the dilute acid. This resulted in obtaining what was equivalent to seven grains of lead. On powdering some of the enamel, and heating it with concentrated acids, very distinct traces of arsenic were obtained. This was probably not present by design, but accidentally from being contained in some of the substances used in making the enamel. A culinary vessel which contains so much lead, and in such a state of feeble combination that eight ounces of ordinary cider vinegar can, in twenty-four hours, dissolve from a quart basin what is equivalent to seven grains of metallic lead, must be a very unsafe vessel for general use.

The subject of sanitary conventions was considered, and, after some discussion in regard to the kind of subjects to be treated, and their mode of treatment, it was voted to hold such a convention at Coldwater, Mich., during the coming winter, being invited to do so by Dr. J. H. Beech, of that city. The Secretary was directed to make the necessary preparations.

Invitations were also received to hold conventions at Fontiac and Detroit, from Rev. D. C. Jacokes and Dr. Lyster, who, on behalf of the citizens of their respective cities, promised active efforts for the success of such meetings.

One interesting feature of these meetings is expected to be the exhibition of all sorts of sanitary appliances—a kind of sanitary fair where all interested can exhibit or examine articles designed to meet the wants of the people in their efforts for public and private health.

Dr. Hitchcock, having attended the meeting of the American Medical Association at Buffalo, at the request of the Board, gave a written report of the proceedings of the public health section of that body. The proceedings of the American Social Science Association, so far as they related to subjects connected with the public health, were reported by Dr. Kedzie.

On the Board being informed by the Secretary of the resignation of Rev. C. H. Brigham, on account of continued ill health, a preamble and resolution was adopted expressing sympathy with him and regrets at losing his services on the Board.

The Secretary presented a communication on typhoid fever from George Chapman, M.D., of Hudson, which will appear in the Annual Report for 1878.

An account of an outbreak of scarlet fever at Michigamme, Marquette county, and of the energetic and apparently effective means employed for its restriction, received from J. R. Curley, clerk of Michigamme township, was presented.

A communication from George Voorhees, M.D., of South Bend, Ind., giving an account of the fatal burning of a young lady in that city, by the Rose burning fluid, was read. In that connection, Dr. Kedzie called the attention of the Board to the fact that the Ohio Legislature had followed the example of Michigan, having passed a law for the inspection of illuminating oils, similar to, though not quite as good as the one in Michigan, secured by the efforts of this Board.

Communications were read from the Michigan State Inspector of Illuminating Oils, giving an account of the burning to death of an old lady in Bedford township, Monroe county, from the breaking of a kerosene lamp, probably filled with Ohio oil below our standard, and also another giving an account of the explosion of a lamp at East Saginaw, caused by the faulty construction of the wick-tube.

The Secretary presented a report of the work done in his office during the preceding quarter. Besides the regular work of preparation of manuscript for the reports, compilation of reports of diseases, distribution of postal blanks for weekly reports, ordinary correspondence, etc., a circular (28) had been prepared and sent to all health officers in Michigan (1,222 in all), giving them general suggestions in regard to their duties, and the obligation of local boards of health as guardians of the public health. A large number of copies of the Sixth Registration Report, compiled by the Secretary, had been distributed to the regular correspondents of the Board, sanitary journals, received as exchanges, and prominent sanitarians.

After the usual auditing of bills and accounts, the Board adjourned.

The next regular meeting will be October 8, 1878.

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ORIGINAL COMMUNICATIONS.

ART. I.—*Clinical Notes in Obstetrics and Gynecology.* Read before the Yonkers Medical Association at its stated meeting, March 15, 1878.
By EUGENE PEUGNET, M.D., Fordham, New York.

[Continued from page 342.]

PART III.

The examination of the cases referred to in the first and second parts of these notes, demonstrates the urgency of a point, too often neglected, pregnant with importance: the management of woman during gestation and parturition. Even further—the examination of women prior to marriage, for the existence of pelvic deformity, of uterine fibroids, of an inherited diathesis, etc., would lead us to warn them of the danger they might incur, should conception be the result of it.

ZYMOTIC OR CONSTITUTIONAL DISEASES,

At times seriously complicate pregnancy and its sequelæ.

CASE XXXIII. — A young primipara, American, in the second month of her pregnancy, was subject to a severe attack of intermittent fever, for which I treated her, and then saw nothing more of her until the day prior to her confinement. Her husband then informed me that the mid-wife,

who usually attended to such cases in the family, would not assume the responsibility of the management of her case. This was not surprising, as the patient evidently had symptoms of pernicious malarial anæmia. The next day, she gave birth to her child. Her anæmia was so great that the uterine flow and subsequent lochia were absolutely colorless. The pillows were removed, and her head, owing to the vertigo, kept low. The anæmic bruit could be distinctly heard in the jugulars. By assiduous care and attention, with a raw meat diet, and the administration of minute doses of the bichloride of mercury in combination with the muriated tincture of iron, to increase the red corpuscles; strychnine, ergotine, and quinine, to induce vaso-motor spasm, thereby stimulating the capillary circulation of the nerve-centres and of the enlarged spleen, and digitalis in combination with the latter remedies, to sustain the heart's action, I succeeded in getting my patient out of bed in six weeks. Prior to that time, the slightest attempt would induce syncope. Her child was bottle-fed, and both are now well.

CASE XXXIV, presenting an ill-defined *syphilitic* history, is to the point. On the 18th of April, 1875, I was called to attend a multipara, third pregnancy. Her two first children evidently healthy. The dorsal and palmar surface of the lady's hands were covered with a papular eruption, which extended up the arms, and there were blotches of it on the face, neck, and chest. The labor was a normal and rapid one. The child, a puny one, was born alive; there was also an eruption, similar to its mother's, on its nates. The mother, owing to an insufficient lacteal secretion, had been unable to nurse any of her children. Suspecting syphilis, I questioned her husband, who stated that all his wife's family were of a strumous diathesis, and that at each of her pregnancies, his wife had had a manifestation of this eruption, accompanied with general deterioration of her health, but this, the third child, was the only one which presented any evidences of dis-

ease When two weeks old, it contracted pertussis from the other children, and finally died from inanition, when two months of age. Although, from want of sufficient *data*, the *diagnosis* was necessarily *ad captandum*, I considered the eruption a papular syphilide. Therefore, advised the father that, in the event of another pregnancy, I should be notified as early as possible, as it was of the greatest urgency for the welfare of both mother and child. On the 25th of June, 1876, I was informed that she was again pregnant, in her third month, and her general health had begun to deteriorate. There were a few patches of the roseola, also nocturnal pains. I accordingly prescribed anti-syphilitic mixed treatment: proto-iodide of mercury, iodoform, and extract of conium. Under this course of treatment she improved rapidly, enjoyed better health than in any of her previous pregnancies, and on the 4th of December, 1876, gave birth to a healthy child at term. Both have since then continued to enjoy good health.

CASE XXXV.—*The development of the mammary gland and nipples* is another point too often neglected, especially in primiparas. This, notwithstanding Cazeaux's classical work, may appear superfluous, yet experience and close observation will prove its utility. I was only called to see this young primipara three days previous to her confinement, therefore too late to advise her about preparing herself to fulfill the requirements of maternity. On the third day, subsequent to parturition, there was a profuse lacteal secretion, the flattened and almost retracted nipples prevented the flow of milk. Her nurse, with considerable hospital experience, was anxious to suppress the lacteal secretion. This I peremptorily objected to, and after five hours' friction, steaming, and drawing out the nipple with a small cup, I succeeded in starting the flow of milk. The next day, three hours were spent in a similar manner. On the sixth day, she was able to nurse her child without difficulty. I subsequently attended

her in three parturitions, and she had no further trouble in nursing her children. It is not always easy to have a young mother submit to the apparently harsh treatment this one was subjected to, especially when fashion, and the penalties imposed on its votaries, lead her to employ a wet nurse, and if it cannot be afforded, then the unfortunate child is given a precarious chance of existing by means of artificial feeding. Aside from nursing being the normal mode of feeding the child, it has a well known influence in inducing uterine contraction, thus preventing and arresting hemorrhage; also diminishing the tendency to uterine sub-involution, and its consequences.

CASE XXXVI.—The dangers of *retroversion* during pregnancy are too well known to require any comment. This one is an apt example of the means by which such risks may be avoided. A lady, multipara, twenty-nine years of age, was taken suddenly, shortly after the birth of her third child, with agonizing pelvic pains, which continued to recur at intervals. As her physician considered her too robust to have uterine difficulties, he treated her for malarial pelvic neuralgia, until at every recurrence of a severe exacerbation, her stereotyped dose was ten grains of quinine, with the important adjunct of forty-eight hours', or more, rest in bed. The latter was, no doubt, the important factor affording her relief. Pending one of these exacerbations, I was consulted, and from the history of the case, suspecting uterine displacement, made an examination, and finding the uterus retroverted, immediately replaced it, thus affording the patient instantaneous relief. As she objected to the use of a pessary, I prevailed upon her to permit the introduction of a carbolized cotton dumbbell one. This she would wear for forty-eight hours, and its application every fifth day sufficed to afford her relief. Whilst under treatment she became pregnant; this led to an aggravation of her symptoms, but by keeping the uterus in place by means of the cotton pessaries

until the fourth month, the body of the uterus being then above the brim, there was no return of the difficulty. She went to term, had an unusually rapid and easy delivery, her previous parturitions lasting twenty-four hours. To prevent a recurrence of the accident, I kept her in bed fifteen days, and confined her to one floor for two months, but the occurrence of serious illness in her family, requiring an unusual amount of exertion on her part, led to a relapse, with a hæmorrhoidal tendency. I then introduced a flexible Albert Smith's modification of Hodge's pessary. This afforded her relief, but as she complained of a tilting uterine motion, I substituted Woodward's improvement with the anterior apron, which has afforded her permanent comfort.

The importance of the *propter hoc* being thus self-evident, the urgency of the *post hoc* will be found none the less so. The secondary hæmorrhage occurring in Case XI, is an evidence of it, for this form of hæmorrhage arises from various causes, such as the retention of debris of the placenta, etc., although in that case, I am satisfied it was the result of atony and passive uterine congestion, with an arrest of the proper regeneration of the mucous coat of the uterine cavity. This lady had had, owing to a miscarriage and its evil results, a long interval of rest prior to her last pregnancy, and a constant sufferer without treatment, until conception afforded her relief, and probably, as is usual in such cases, the *uterine disorder*, as a sequel, recurred in an aggravated form. Thus:—

CASE XXXVII.—In 1864, a lady, while under the treatment of Dr. George T. Elliott for sub-involution, croupous endo-metritis, and granular fungous ulceration of the cervix, much to his surprise, became pregnant. By his advice, placed herself under my care. In May, 1865, gave birth to her fifth child. Fearing an aggravated recurrence of the previous uterine disorder, I kept her in bed four weeks, also had frequent injections of diluted chlorinated water made; but notwithstanding, the disease recurred in an intensified form,

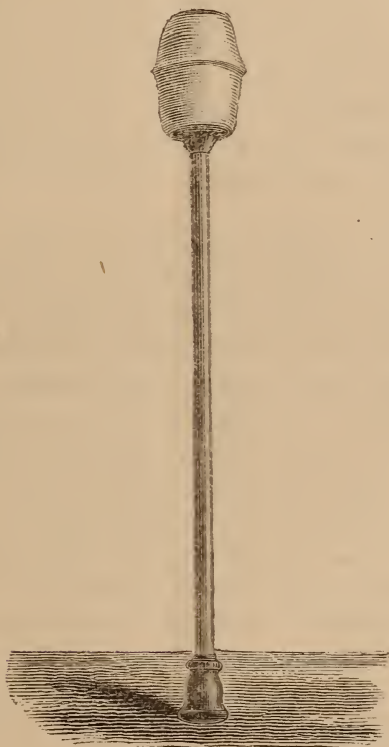
with eversion of the cervical mucous membrane. Failing to yield to ordinary treatment, I finally had recourse to the actual cautery, applying the cautery to the canal of the cervix, as well as to the cervix itself. Thus effected a cure, although the contraction ensuing, as she has never been pregnant since, may have induced sterility; yet it was not great enough to give rise to any of the symptoms of dysmenorrhœa. I have found the actual cautery of great value in cervical lacerations, especially with resulting endo-metritis, and with a passive hyperæmia of the os. Its action is much more rapid and effectual than other escharotics. With Paquelin's thermo-cautére, it can now be applied without alarming the patient. Due caution should, however, be made use of, lest too great contraction should ensue.

There are various other accidents, such as lacerations, previously referred to, (Cases I and II), fistulas, inversion, etc., which, attended to in time, will prevent years of suffering. Illustrations of which will be found in the following notes on

GYNÆCOLOGY.

CASE XXXVIII.—*Inversion of the uterus*.—I was called, on the 11th of August, 1874, in consultation with Dr. Naudain, to see a young primipara, an American, who had been delivered by another physician, on the evening of the 8th inst., with forceps. Her pulse was 120; she had a pronounced malarial cachexia. The fundus of the inverted uterus protruded through the vulva, and the stench from the lochial discharge was intolerable. The vagina and uterus were then thoroughly washed with a warm solution of chlorinated soda. This enabled us to ascertain that there was neither inflammatory action nor gangrene. By pushing the uterus upwards, the os, owing to the emaciation of the patient, could be felt, and examined through the abdominal parietes, it was very rigid and extremely contracted. Having anæsthetized the patient with ether, I attempted reduction by taxis, as in

hernia, by first reducing the part which was the last to protrude. Not succeeding in this, I then endeavored to reduce one cornu, but the extreme rigidity of the os rendered all such efforts unavailing. I then made use of a compressor, constructed out of the piston of a hard rubber syringe and the bulb of a Davidson syringe, the cavity of which was filled with lint.



With this elastic compressor, whilst Dr. Naudain held the os in situ, thus making counter pressure, I made direct compression on the fundus. This soon effected the reduction, and as usual with such a velocity, as to communicate a sensation to the operator of his having gone through the fundus

instead of the os. I then introduced a carbolized wedge and tampon, which was removed in twenty-four hours. The pulse immediately after the operation had risen to 140, from shock; this was effectually controlled by the hypodermic injection of ten minims of Magendie's solution of morphine. This method is preferable to the internal administration of opium and its alkaloids. For in such cases the nerve centre, as in severe injuries of the abdomen, essentially shocked, is the solar plexus, the paralysis or destruction of which gives rise to vaso-motor paralysis of the stomach and intestines, therefore arresting the capillary circulation of the villi, thus preventing the immediate absorption of the remedy; and the patient to whom it is thus administered dies from shock ere it is absorbed or has consequently had time to stimulate the nerve centres.

CASE XXXIX.—*Fibroids, peri-uterine cellulitis, anteversion of the body, and retroflexion of the neck.*—This case is an apt example of the efficacy of the hypodermic injection of morphine in emotional shock and nervous depression, the latter caused by the injudicious and excessive administration of brandy in uterine disorder. A multipara, æt. 34, American, married thirteen years. Consulted me casually in November, 1875, for vesical trouble, frequent micturition, etc. I therefore advised her to submit to a thorough examination. Nothing was done, however. In the summer of 1877, she suffered from severe paroxysms of pelvic pains, especially at the menstrual epoch. In the fall, marital relations became exceedingly painful. About the middle of October, 1877, was taken with severe pelvic pains; regarding them as the forerunner of the menstrual period, she paid no attention to them. On the morning of the 4th of November, after a severe mental emotion, fell insensible to the floor. A physician hastily summoned, not having been informed of the mental shock, concluded, after a careful examination, that "a hyperæmic condition of the uterus had induced a reflex action on the heart,"

and in consequence of the great depression, administered brandy *ad libitum*. On the evening of the 5th, there having been no improvement in the condition of the patient; another physician was summoned in consultation. He made a diagnosis of pelvic cellulitis, and the case was pronounced hopeless; the brandy, *ad libitum*, to be continued, and in addition thereto the hypodermic method made use of. At midnight, a pharmacist, a friend of the family, rather transcending the limits of his prerogatives, applied a few drops of the nitrite of amyl to the patient's nostrils; this, of course, stimulated the action of the heart. I was then sent for, and saw her on the 6th of November, at 7 A.M. Her pulse was imperceptible, temperature 96° in the axilla, vomiting incessantly, heart's action irregular and feeble. I sent for the medical attendant who, with the exception of emotional shock and nitrite of amyl, gave me the above history. She had taken three full bottles and one flask of brandy, three pints of which, as the gentleman subsequently stated to Dr. A. M. Campbell, were given in the first twenty-four hours. Looking upon the sedation of the nervous system as the first indication to be met, I gave her a hypodermic injection of seven minims of Magendie's solution of morphine, this to be repeated in two hours; the brandy by the mouth to be discontinued. At 1 P.M., her pulse was 120 and feeble, heart's action more regular, and the pelvic pains recurring. She would, at times, call for the drops "nitrite of amyl," which had been surreptitiously administered to her, expressing a sense of relief each time. Hot fomentations were applied to the epigastrium.

November 9th, A.M., the dysuria being intense, I drew off four ounces of urine, and as she had rallied sufficiently, made a careful vaginal examination. The uterus was somewhat enlarged, exquisitely tender to the touch, fixed immovable, slightly anteverted, and on each side of the vagina, near its cervical reflection, there were points of induration. There

was marked tenderness in hypogastric region over the uterus, and extending to both iliac regions. An enema in the rectum had also caused intense tenesmus. I therefore made a diagnosis of peri-uterine cellulitis, origin unknown, possibly the result of sudden anteversion. The patient was kept under the influence of morphine, and, in addition to beef tea and milk, champagne in small quantities administered. On the 10th, I gave her ten grains of calomel, followed by citrate of magnesia. A few hours afterwards, she had a free, but exceedingly painful evacuation of the bowels, several enemas administered previously not having had any effect.

November 11th, much improved. 13th, applied two blisters, one over each iliac region, which afforded the patient great relief. Prescribed iodide and bromide of potassium internally, and from this time forward she continued to improve. December 28th, I made a careful examination; the uterus was enlarged; immovable, and anteverted; the neck normal; the probe could not be made to penetrate the uterine cavity. This examination led me to suspect uterine fibroids, but as there was still considerable tenderness, did not deem it advisable to dilate the canal of the cervix with tents. The menses made their appearance on the 5th of February, 1878, accompanied with considerable pain; a sanious discharge, which had continued since last examination, disappeared with them. February 16th, was taken with pains, especially on right side, and unable to lie on left side. February 24th, pain has been almost continuous. The uterus larger than at previous examination, decidedly anteverted, and the neck now retroverted at an angle of 45° . The uterus more movable, introduced a cotton cushion between pubes and uterus, which effected partial relief, and ordered blisters to right iliac region, also the administration of liquor opii compositus *pro re nata*. March 5th, symptoms alleviated; introduced a short sponge tent. March 6th, another one. March 8th, succeeded in introducing index finger just beyond

os internum, and felt a resistant body, probably attached to anterior wall; but the pain caused was so intense that I was compelled to desist in the examination. As I felt satisfied that no thorough examination could be made without section of the os internum, and that I should be prepared to enucleate in case of its being a sub-mucous fibroid. Advised the patient of the dangers of the operation, and suggested the use of palliative measures, patience, and time. Gave her a Cutter's pessary, with broad base properly curved, directed her to have her skirts suspended from the shoulders, and to wear a suspensory abdominal bandage. Also ordered strychnine, ergotine, and sulphate of berberine, with a view of having a contractile effect on the fibroids, and thus arrest their development.*

The symptoms first developed in this case led me to suspect tubal pregnancy and consequent rupture, but the previous regularity of the menses, and the absence of other signs indicative of pregnancy, finally led to its exclusion. The possibility of ovaritis suggested itself, but the rarity of this affection in the non-puerperal woman, also caused it to be excluded.

OVARITIS, PHLEGMON OF THE BROAD LIGAMENT, PELVIC CELLULITIS, PERITYPHLITIS.

CASE XL.—A young woman, twenty years of age, on whom I had every reason to suspect an abortion had been practiced. Both ovaries were inflamed; the right one was developed to

* May 14, 1878.—Anxious to have something done, the patient, at my request, consulted Dr. T. G. Thomas, who advised me as follows: "There is a vaginal cyst which should be opened. The tumor I cannot make out to be sub-mucous, although only by a sponge tent could we speak positively. I should not be in favor of operative interference upon the tumor, for I think it would surely result in failure at present. My plan of treatment would be ergot, patience, and time." August 30th.—Under this treatment, continuously persisted in, the uterus has fully diminished one-third in size, and most of the distressing symptoms subsided, and general health good.

the size of a large hen's egg. The symptoms of suppurative fever were marked, and the pain intense. By bi-manual taxis, detected fluctuation in the left one. Whilst cogitating as to the advisability of cutting down on it, the abscess ruptured into the fallopian tube, and discharged through the uterus into the vagina, which fact was established by an examination with the speculum. The patient made a rapid recovery; it is now ten years since, and she has been sterile, although anxious to have a family. There was, no doubt, atrophy of both ovaries, especially as she has become more masculine.

The differential diagnosis between ovaritis and phlegmonous inflammation of the broad ligament, is interesting, and I would willingly leave its establishment to more experienced heads than mine. I have, however, observed one fact, that in cases of inflammation of the broad ligament, in which the ovary was involved, the pain and tenderness were exquisite, in the above mentioned case agonizing and paroxysmal, whilst in the ordinary phlegmon of the broad ligament the pain was much less severe. The disease can be readily detected in its early stages, especially if it remains circumscribed, without diffuse cellular inflammation.

CASE XLI, recently under observation, manifested itself on the left side, the sequence of a normal parturition, and first observed by the patient in the third week of her convalescence. The tumor was circumscribed, about four inches in length and two and one-half inches in breadth, extending and inclining toward the left iliac fossa, but perfectly movable and distinct from any immediate uterine attachment. It pointed towards the left wall of the vagina, midway between the vulva and cervix uteri. I felt inclined to introduce the exploring needle, but as the symptoms were not urgent, desisted, especially as the experience, previously obtained in a case of *peri-colitis ascendens*, on which I operated with the concurrence and assistance of Dr. T. M. Markoe, and

failed to find pus, although the symptoms of suppurative fever were urgent. As the Doctor remarked, "It was good but not satisfactory surgery." For my part, I prefer satisfactory surgery. The phlegmon, in both instances, subsided, and the patients made a good recovery. Nevertheless, in such cases, it is necessary to be on the *qui vive*, as I was consulted, some time since, in a case of recto-vaginal fistula, the result of pelvic cellulitis caused by an injury, in which the abscess pointed in the recto-vaginal septum, and was allowed to open into the vagina and rectum. This was not good surgery. The moment this pointing was detected, the abscess should have been opened at the most suitable point of election. Nevertheless, an important question might arise when either disease is situated on the right side, especially phlegmon of the broad ligament—the *differential diagnosis* between them and perityphlitis. No doubt, in most cases, it might be established. For a perityphlitic abscess, from its very nature, would be situated more in the iliac fossa, immovable and more deeply seated. However, in actual practice, the treatment would be the same—cut down on the abscess. If an abdominal incision was indicated, the rules laid down by my preceptor, Doctor Willard Parker, for operating for perityphlitis—especially avoiding a large incision, lest the abdominal parietes should be weakened—would be applicable. Yet in an abscess of the broad ligament, the tendency is to point towards the vagina and rectum, and the vagina is usually the seat of election. The antiseptic treatment of these abscesses by drainage and irrigation is now well established, the dangers of pyæmia and septicæmia, therefore, more remote.

CASE XLII.—*Procidentia and cystocele*, are not unfrequently the result of parturition, and early attention to its treatment will often save patients years of suffering. Mrs. X., American, thirty-three years of age, gave birth to her first child thirteen years since. It was delivered, after protracted labor, by forceps. She made a slow recovery, and then suf-

ferred exceedingly from procidentia and cystocele. She finally consulted the late Dr. Chas. A. Budd, who, after trying several self-retaining pessaries without success, advised her to consult Dr. T. A. Emmett, sixteen months subsequent to her first parturition. The latter performed Sims' operation for elytrorrhaphy, introducing fifteen sutures in the anterior parietes of the vagina. This operation afforded her considerable relief, and about two years and eight months subsequently, gave birth to her second child—an interval of four years between the first and second parturitions. This led to an aggravation of her uterine symptoms, accompanied with more or less hysteria. She then underwent a short uterine treatment. Afterwards gave birth, in rapid succession, to her third, fourth, and fifth children, undergoing uterine treatment after the third and fourth parturitions. Whilst under my care, eleven years and nine months subsequent to her first parturition, gave birth to her sixth child. For nine months she continued to enjoy good health, then suddenly became insensible. Called in haste, I found her unconscious, pupils moderately dilated, surface of the body warm, the action of the heart tumultuous and irregular, pulse at times imperceptible, and the respiration sighing and irregular. She recovered rapidly under the administration of chloric ether and valerian, and then complained of anæsthesia of the arms, especially of the left one. I could not detect any evidence of cardiac lesion, therefore regarded the irregularity as purely functional and reflex. As these attacks continued to recur at short intervals, I advised the weaning of the child, and suggested the propriety of a uterine examination. Having consented to it, I found the anterior wall of the vagina and the bladder protruding through the vulva, and the uterus resting on the perinæum. There was a deficiency of the latter, owing to a former laceration. In the anterior wall of the vagina, close to the cervix, there was a slight nodule, probably caused by a suture, the relict of elytrorrhaphy, which

had become imbedded. The os was hypertrophied and elongated, the canal of the cervix large enough to introduce a No. 10 Bougie, and a sanious discharge exuding from it. The introduction of the uterine probe sound showed the uterus to have the dimensions of four and a half inches. Its introduction, although painless, was followed by a sanguinolent discharge. Conjoined manipulation revealed uterine enlargement and tenderness. Diagnosis: Corporeal endometritis, sub-involution, procidentia, and cystocele. Treatment: Strychnine, lactate of iron, digitalis, ergotine, and sulphate of berberia, internally; directed to suspend skirts from shoulders, and to avoid extraneous abdominal pressure. Locally, applied the glycerate of iodine and tannin, and made use of cotton dumb-bell pessaries. In a fortnight, applied Hornby's pessary, which she removed at night. Under this treatment, she improved rapidly. The urine lost its offensive ammoniacal odor. As, after six weeks' treatment, the sub-involution did not appear to have diminished, I applied the liquor ferri-perchloridi, undiluted, to the uterine cavity. This application caused slight uterine tenesmus, but it rapidly subsided. After four months' treatment, the uterus measured three and a quarter inches. The menstruation, previously exceedingly painful, became painless. The sense of abdominal fullness subsided, and her figure, for the first time since her first pregnancy, resumed its natural symmetry. The metallic base of Hornby's pessary caused such irritation of the vulva that its use had to be discontinued. Her cystocele only troubles her when excessively fatigued. Not considering it safe to have her go without support, I directed her to wear a Thomas & Cutter anteversion pessary. She rarely wears it now, and enjoys better health than at any time since her marriage. It is evident that the non-success of early treatment was due to the neglect of reducing the sub-involution, and relieving the cervical and corporeal endometritis; also, of not having performed perinæorrhaphy

as well as elytrorrhaphy. For the latter to have offered any possibility of permanent success, the perinæal arch, consequently, support must be either intact or its sufficiency have been restored.

CASE XLIII.—*Lacerated perinæum, sub-involution, corporeal and cervical endometritis.*—An American, forty-two years of age, multipara, ten child-births; no instrumental deliveries; all normal as far as can be ascertained. Had suffered for sixteen years from uterine disorder, and had been under the care of three physicians, the last of whom, after a short course of treatment, advised her that on the weaning of her tenth child, it would be necessary, for a permanent cure, to have perinæorrhaphy performed. Six months subsequently, having weaned her child, she consulted me. Although a person of a naturally robust health, and of an active temperament, had, as usual in such cases, become hysterical, and, in short, presented all the symptomatology of uterine disorder, also indications of anterior displacement. The posterior fourchette had been torn through, and the perinæum down to the sphincter, in fact, the entire posterior arch destroyed, and the vaginal parietes much relaxed. The fundus of the uterus rested on the pubes, and the cervix high up in the concavity of the sacrum. After reducing the displacement, there was marked sub-involution of the uterus discernible, also corporeal and cervical endometritis and slight granular ulceration of the cervix, no doubt secondary to the endometritis. I informed her that the operation of perinæorrhaphy she desired me to perform, would not be advisable, until the uterine disorder had been effectually overcome, and, when performed, although it would give her more support, still it would not effectually control the anteversion. This form of displacement is unusual as the result of lacerated perinæum; procidentia is its most common sequence. Adopting the same plan of treatment as in the preceding case (XLI), I also introduced the largest size of Thomas's excellent semi-circu-

lar anteversion pessaries, which gave her great relief for the first few days, but owing to the destruction of the posterior arch, each evacuation displaced it, much to her annoyance. I then made use of the Thomas & Cutter anteversion pessary; this caused such irritation near the anus that she discarded it. Finally, I introduced an Albert Smith flexible pessary, from which she obtained permanent relief. Perinæorrhaphy has, therefore, been indefinitely postponed.

Perinæorrhaphy, to which she had been advised to submit, would no doubt have been, in a measure, beneficial, but as regards the anteversion proper, would not have had any more practical success than resulted from elytrorrhaphy in the preceding case. Brilliant operations are, no doubt, self-gratifying, but if they practically fail in their results, the reaction sadly dims their brilliancy. Nevertheless, these two cases are a mortifying commentary of either professional ignorance or neglect. Immediate attention would have spared them years of suffering.

In the cases falling under my observation, which had undergone previous treatment, I have been struck not only with the skepticism of patients, but the positive dread they have of undergoing any further treatment. They are ready to exclaim, with the Antiquary, on beholding a surgeon—

“He came—but valour so had fixed his eye,
And such a falchion glitter’d on his thigh,
That, by the gods, with such a load of steel,
I thought he came to murder, not to heal!”

CASE XLIV.—Thus, a lady, when her first child was about two years of age, became again pregnant. She was given some drops by a prominent homeopath, probably *helleborus niger*. These had the effect of producing an abortion; in consequence thereof, suffered from uterine disorder. She then consulted her regular attendant, an eminent surgeon, who, obliged to absent himself for some time, turned her over to an eminent gynæcologist. Dissatisfied with his

treatment, she placed herself under the treatment of an equally prominent gynæcologist. Then, thoroughly disgusted with science and art, passed into the hands of charlatanism—first two doctresses, thence through two water-cures, and then to a magnetic doctor, until, a perfect wreck of her former self, bed-ridden, she consulted me. Her knowledge of uterine diseases, and of its treatment, was somewhat appalling. Her diagnosis of her case was retroversion, and she only desired me to replace the uterus. Making a digital examination, I found the uterus in its normal position. The vagina was exquisitely sensitive, but, notwithstanding, prevailed upon her to admit of the introduction of the speculum. I then recognized a granular ulcer of the posterior lip of the cervix, extending into the canal. This ulcer yielded readily to treatment. The introduction of the speculum was always exceedingly painful—even with the utmost care, she would scream—yet there was no indication of vaginismus. This sensitiveness was no doubt the cause of her abandoning science and art—charlatanry pandered to it. The remarks of her first attendant, to me, confirmed this view. She recovered entirely, but the habit of malingering still kept a firm hold of her, notwithstanding that she enjoys better health than at any time in the previous eight years. This case is not by any means an isolated one, for they are constantly met with. It is best to illustrate their disease and treatment as little as possible. The confidence once gained, gentleness in making a uterine examination will accomplish the rest.

CASE XLV.—*Uterine fibroids, ovarian cyst, and septicæmia.*—This one is an instance of ovarian disease exceedingly obscure and difficult of diagnosis, the existence and situation of which might have had an important bearing on the mechanism of labor. Mrs. T., an American, æt. 31 years, only one child, had been suffering for several years with dysmenorrhœa, and her general health affected in consequence thereof. March 3, 1863, I made a uterine examination, and

found the organ in a normal position, the os rather elongated. Simpson's sound could not be made to penetrate more than three-fourths of an inch beyond the os externum, and the probe but little further. Conjoined examination: with the finger in the rectum, the uterus beyond the neck felt very much like an enlarged prostate. By the introduction of the sound into the bladder, and thus depressing the uterus, a hard, resisting nodule just behind the cervix and extending beyond os internum, could be distinctly felt. Diagnosis: fibroid in the posterior wall of the uterus, occluding the canal of the cervix at os internum—the causation of the dysmenorrhœic symptoms. Then inserted a small sponge tent. March 7th, a large one introduced. March 23d, a third one. March 26th, the canal of the cervix was sufficiently dilated to permit of the point of finger reaching the os internum, the intra-mural fibroid could then be distinctly felt. Simpson's sound could be readily passed to the fundus, yielding a uterine dimension of three inches. At the next menstrual period, March 30th, the dysmenorrhœic symptoms were slight. Her general health continued to improve steadily, until August 14, 1867, when the menstrual flux was freer than usual, in fact, hæmorrhagic. The prostration resulting therefrom necessitated the introduction of a tampon, which, owing to the recurrence of the hæmorrhage, was removed, at intervals, until September 1st. She remained very anæmic for some time, but eventually recovered her usual health. October 25, 1869, having been advised by my successor, the late Dr. H. M. Sprague, to consult Dr. T. G. Thomas, owing to her having observed a large swelling on left side, that came on suddenly accompanied with considerable pain, at the last menstrual period but one, in August, 1869, her husband requested me to accompany her to Dr. Thomas's. On examination, we found a large tumor in left ilio-pubic region, which produced right latero-version of the uterus. Conjoined palpation between the vaginal cul de sac and the hy-

pogastrium, yielded a semi-fluctuating sensation, and the finger in the rectum afforded a similar result. This tumor was immovable. Examination with the speculum: there was a peculiar elongated appearance of the posterior lip of the cervix. The os externum was dilated, and the fibroid could be distinctly seen in the posterior wall. The uterine probe, such was the extent of the latero-version, had to be bent to about the section of a four-inch circle, before it could be passed to the fundus, yielding a dimension of about three inches. The Doctor was naturally unwilling to commit himself fully, but owing to the suddenness with which it was presumed to have manifested itself, believed it might possibly be a pelvic hæmatocele, the result of the regurgitation of menstrual blood at the August period, its flow outward having been obstructed by the uterine fibroids. November 25th, Dr. Thomas saw her again in consultation with me. She had menstruated normally on the 1st inst. There had been no perceptible change in the size of the tumor, except an increase of tenderness. The conjoined examination yielded results similar to the preceding one. The Doctor then inclined to the existence of an extra-mural fibroid, in which there was an inflammatory action. February 7, 1870, I was called to see her in consultation with Dr. Sprague. She had begun menstruating freely on the 30th of January, and the flow was becoming menorrhagic, pulse 98 and thready. I advised the administration of ergot, and the application of the persulphate of iron to the cervix, and to tampon the vagina. February 10th, the flow still persistent, I then applied the tampon. February 12th, no abatement in the tendency to hæmorrhage, and the patient evidently growing weaker. On making an examination with Sims' speculum, I found the cervix very much tumefied, and the blood flowing freely from the uterine cavity. I threw in, with Lent's syringe, an injection of liquor ferri persulphas $\frac{1}{3}$, to the glycerate of starch $\frac{2}{3}$, then applied a tampon saturated with car

bolized oil, and gave her an hypodermic injection of seven minims of Magendie's solution of morphine. 6 P.M., pulse 124, respiration 20, and considerable tenderness over the hypogastrium. February 13th, pulse 120, respiration 18, slight tympanitis and tenderness, also restless. Tampon then removed. No further signs of hæmorrhage. Twenty grains of hydrate of chloral was then administered to her, to be repeated as often as indicated. February 15th, complete suppression of urine for preceding twelve hours, vomiting a dark colored and offensive fluid, also a peculiar and offensive odor emanating from her; pulse 130; no discharge whatsoever; evidently sinking from septicæmia. February 16th, unconscious since 6 P.M. of the preceding day. She died about midnight.

Autopsy, made by Dr. Sprague, about thirty hours after death: Rigor mortis well marked, abdomen tympanitic, a few old adhesions in the upper portion of the peritoneum, slight congestion of the peritoneum in pubic region; a tumor observed in left ilio-pubic region; it was found to be firmly attached to the pelvic fascia, and removed with the uterus. On further examination, it proved to be an ovarian cyst, arising from the left ovary, in which an inflammatory process had taken place, and contained a quart of dark colored and exceedingly offensive fluid. The uterus, with the exception of the fibroid previously described and recognized during life, was normal. This specimen was presented to the Pathological Society.

There is no doubt that an exploratory puncture through the cul de sac of Douglas would have determined the diagnosis, and might, in all probability, have prolonged the patient's life; although it might, possibly, have tempted us to remove the cyst through the cul de sac. This would, in all probability, have resulted in failure, as the attachments to the pelvic fascia were too extensive. Had pregnancy, under the circumstances, occurred, and the patient have gone to

term, it would have been necessary to either perform Cæsarian section or craniotomy, unless an exploratory puncture had revealed the existence of an ovarian cyst. Therefore, there is no reason to change the opinion expressed to Dr. Thomas, immediately after the autopsy, that "under similar circumstances, I should make an exploratory puncture through the cul de sac." Moreover, in the following instance—the rupture of a cyst, in an almost identical situation, into the rectum—confirmed my views.

CASE XLVI.—A single woman, American, forty years of age, was seen by me in consultation with Drs. Naudain and Chas. F. Rodenstein, in October, 1875. It was at first believed that ovariectomy might be performed, but, owing to the grumous contents of the cysts, refrained from. I tapped three cysts before the rupture occurred, and the patient finally died from septicæmia. The autopsy proved that, owing to the intimate and extensive peritoneal adhesions, operative interference would have resulted fatally. The point of rupture was just above the cul de sac of Douglas.

CASE XLVII.—*Atresia of the vagina* is one of great interest. On the 26th of April, 1875, I was called in by Dr. Naudain to assist him in operating on a young girl, sixteen years of age. She had had, for the previous eighteen months, every indication of the approach of puberty-periodical pains, but no flux. A regular practitioner was first consulted; was then treated for nine months by a homeopath, for periodical attacks of inflammation of the bowels. The last one, at the time the Doctor was called in, the hymen was imperforate and tegumentary. A trace of the labia minora and the majora imperfectly developed. The meatus urinarius distinct and prominent. A recto-vesical examination tended to prove entire absence of vagina. The uterus was very much distended, and extended to the umbilicus. The abdomen quite tender. Pulse 120, and temperature in rectum 102°. The patient having been anæsthetized with ether, an incision

was made through the tegumentary hymen, and the Doctor, with scissors and finger, at a distance of about two inches, reached the os. At this juncture the pulse rose rapidly to 140, and it was decided not to puncture with the trochar, but, on the contrary, to aspirate. I then introduced a No. 2 needle of the aspirator, and drew off thirty-two ounces of grumous blood. A hypodermic injection of morphine reduced the pulse to 120. Everything progressed favorably until the evening of the 28th, when symptoms of septicæmia manifested themselves. The blood had continued to flow through the vagina, which had been kept open by means of a glass dilator, and was odorless. She finally sank, and died on the sixth day. At the autopsy, made thirty hours after death, in the presence of Drs. Chas. F. Rodenstein, Liebenau, and others, it was found that the peritoneal cavity contained a large quantity of blood undergoing decomposition, and which had escaped through the extremity of the fallopian tubes into the cavity. The fundus of the uterus was normal, but the anterior wall greatly dilated. The cervix was small, the only evidence of a canal was the opening made by the needle of the aspirator. There was a complete absence of a normal vagina, and there were no evidences of inflammatory action either in the peritonæum or the uterus.

The weight of authorities is in favor of a free evacuation of the uterine contents, but the impeding collapse prevented doing it in this case. Moreover, the cases recorded have been generally operated on at an earlier period than in this instance. Although her death was the immediate consequence of the operation, there is no doubt her life was sacrificed by delay and procrastination—the result of ignorance and empiricism.

CASE XLVIII.—*The uterine probe* requires cautious handling; its value is universally recognized. Some physicians have seen serious effects arise from its use, and the patients have, in consequence thereof, a perfect dread of it. Others

have had a few rare instances in which miscarriage was induced, *no* suspicion of pregnancy being entertained.* I have had a like experience and a similar result in one instance. The patient, unmarried, had a small polypus arising from the canal, close to the cervix. After removing it, as the enlarged uterus made me suspect the existence of an intra-uterine growth—having no suspicion of pregnancy—passed the probe into the uterine cavity. This induced uterine contractions. To protect myself, in case anything should happen, I called in Dr. C. F. Rodenstein. The result was the expulsion of an embryo undergoing decomposition. This knowledge of the possible effect of the probe, is known to others besides the profession. A lady, anxious to abort, requested me to interfere; on my refusal, boldly stated that all she need do was to complain to any doctor of uterine symptoms, and the probe would have the desired effect; such and such of her friends had done it with success. A notorious abortionist, now deceased, subsequently operated on her. The possibility of thus unwittingly acquiring the reputation of a professional abortionist, is not pleasant to dwell upon.

CASE XLIX.—*Topical applications*—their value is universally appreciated—there are an infinite variety of them. I have no favorite one, but endeavor to meet each and every indication in their application. The stronger ones, especially the escharotics—mineral acids, potassa cum calce, etc.—require great caution in their application. *Chromic acid* is an admirable one, but I have seen an instance in which it induced extensive vaginitis. The patient had an extensive granular ulcer extending to the os internum. Anxious for a rapid cure, I selected this acid, as it had been most efficient in my hands. Shortly after its application, there occurred a profuse uterine hypersecretion, which resulted as mentioned

* Thomas on the diseases of women, 2d ed., p. 80.

above. Since then, I have been more chary of its use, preferring potassa cum calce.

CASES L—LI.—Ill effects will sometimes follow milder applications. In the Medical Record (Vol. VI, No. 24, p. 573,) I reported two cases of uterine accident following the topical application of the *pinus canadensis*. In the first instance, severe paroxysms of uterine cholic was induced, and, in the second, severe metritis, which came nigh proving fatal.

PESSARIES—their advantages and dangerous consequences.—The advantageous uses of pessaries having been sufficiently illustrated in the preceding cases, require no further comment. At the present day, there appears to exist a wide-spread professional epidemic of *cacæthes inventi*. So great is this tendency that there are now three sets of scales for sounds—the French, English, and American—the unit would be less perplexing, *Facile est inventis addere*. Therefore there is an endless variety of the two divisions of pessaries: 1. The self-retaining or self-supporting within the vagina; and, 2, those which support the uterus or vagina from without. There are many of the first class constructed and self-retaining on strictly physical principles, and in their application a violation of equally strict physical laws. It is evident a self-retaining pessary first puts on the stretch the already weakened vaginal parietes, and is apt to compress the bladder and rectum, not only to an uncomfortable, but injurious degree. None more so than Dr. T. G. Thomas's first compound lever anteversion pessary, a modification of Hodge's lever—a beautiful piece of mechanism, but fraught with danger to the patient. It is fortunate for the patient, if not for the profession, the later experience of the distinguished inventor has led him to discard it entirely.

CASE LII.—In 1875, I was called to see a married woman, whose youngest child was eighteen years of age. She had not conceived again, and had remained, since that birth, an almost constant sufferer. In 1873, sought the advice of Dr.

S. H. McIlroy, and at a consultation with a distinguished gynæcologist, the latter introduced one of the above-mentioned pessaries of Thomas. It certainly afforded her relief, but not having been able to see her physician for two months, I was called in. She was then suffering from intense pelvic pains, and a profuse sanious discharge. After considerable difficulty, I succeeded in removing the pessary, thus affording the patient considerable relief. The vaginal parietes were thickened and indurated. Nor is this all; there was a fissure of the anus, and at a point opposite the one at which the instrument had compressed the recto-vaginal septum, there was a stricture of the rectum. These were, fortunately, got rid of, and the anteversion relieved by the Thomas modification of Cutter's pessary. Her improvement was so great that, a short time subsequently, she imagined herself pregnant, and was only convinced of the contrary when she had gone beyond the stated period.* In the fall of 1877, having, contrary to my advice, discarded the use of the pessary, she had, a few months' subsequently, a recurrence of the distressing symptoms of anteversion.

The above-mentioned objection does not apply with equal force to the half-circle lever pessary of Thomas. In one instance, (Case XLIII), I referred to its inapplicability, yet the application of this same pessary afforded immediate relief in a case of anteversion of twelve years standing, which had no doubt been the cause of sterility in a previously prolific woman. In this case, as there had been no laceration of the perinæum, the posterior arch was intact, and prevented the play, as in the previous case, on a relaxed posterior wall.

* I have had one other case in which this illusion occurred. A lady, multipara, whose husband died suddenly from a perforating ulcer of the stomach, imagined herself, a few months subsequently, pregnant, and notwithstanding a thorough examination, could not be convinced to the contrary, until she had gone beyond the allotted period. The movements of the embryo were to her mind distinct. It is now thirteen years since, and she is enjoying good health.

The ordinary ring pessary, the most generally used, is of great utility, still, in many cases, it will not answer, as the flacid uterus or an elongated os will sometimes slip through sufficient to cause unpleasant symptoms, and afford but little relief. In one of these cases, I found Woodward's modification of the Albert Smith and Hodge lever of unequaled efficiency. The apron in front prevented the slipping through of the uterus, and also held it *in situ*, thus preventing the tilting of the uterus backwards and forwards, which the patient complained of with the other forms of pessaries. In the previously-mentioned case (XXXV) of retroversion, I applied it to relieve this with a similar result.

I have, therefore, found the lever pessary the most applicable to the various forms of uterine displacement. To Dr. Hodge we owe the establishment of this principle, and the many varieties of this form of pessaries are simply adaptations and modifications of his idea. The adoption, if not the suggestion of the flexible self-retaining forms of pessaries, is due to the clear-headed and analytical mind of the American Nestor of gynæcology, the lamented Peaslee. *Pari passu*, if a self-retaining pessary is necessary, the one which adapts itself the most readily to the parts, is the one indicated.

The objections to the ring pessary are frequently met with by the rubber cushion, Gariel's air-bag, etc., but they answer in but few cases, for, with a heavy uterus and a relaxed vagina, they only increase the malaise. With the air-bag, I have seen very unpleasant and alarming effects.

CASE LIII.—On the 17th of February, 1866, a gentleman requested me to call at once, "as his wife had a fit." Taking some chloroform with me, he soon ushered me into her presence. We were barely in the room before the lady had, to those present, a most painful exarcerbation of *nymphomania*. I immediately administered chloroform to her, and when anæsthesia was induced, her attendant was able to replace her clothing, of which she had entirely denuded herself. On

inquiry, her husband informed me that she had been under homeopathic treatment, and her physician had introduced, two days previously, a pessary to relieve prolapsus. Returning to her room, I removed a *Gariel's air-bag*; this action induced a slight recurrence of the exacerbation. Her attendant then gave her a warm bath, and she passed a quiet night. A subsequent examination revealed the existence of a superficial ulceration of the cervix, with considerable hyperæmia. This yielded readily to local depletion and applications of the nitrate of silver. She had no recurrence of the nymphomania, and has enjoyed good health since that time.

Of the pessaries depending upon extraneous support, the various forms of Cutter's pessary, as modified by Thomas, are unequaled for anteversion, retroversion, or cystocele. Like the self-retaining, it acts on the lever principle, and has the advantage over them of fulfilling this indication without unduly compressing either the rectum or bladder. The various other forms of pessaries depending upon extraneous support, I have found to be very useful, especially in the procidentia of elderly persons. The best are those which have a certain amount of elasticity in their action, and adapt themselves the most readily to the movements of the body.

Cotton, as a temporary pessary, has been exceedingly useful in my hands, not only on account of the varied forms it may be shaped in, but also as less repugnant to nervous temperaments, who are shocked at the idea of a pessary. Moreover, its use prepares them for the application of regular pessaries. The objection to its uncleanness can be readily obviated by giving it a coat of thin rubber.

Great attention should be paid to cleanliness by daily vaginal douches, and I never allow my patients to retain one more than a week at a time, without replacing it; also advise them to remove the pessary during the menstrual epoch. Yet some experience such a sense of relief from their appli-

cation, that they persist in wearing them throughout the period.

In a word, the success of a pessary depends upon adapting the pessary to the case; not, as is frequently done, the case to the pessary.

The tampon is sometimes necessary in menorrhagia or flooding, the various causes of which are well known, therefore needless to discuss. Formerly, it was almost entirely done either with cotton or linen, more recently with the air-bag. I have found in two cases, that notwithstanding the utmost distension of the vagina the patient could tolerate, blood still oozed, and, in one case, came near losing my patient. Since then, I always tampon the canal of the cervix either with a sponge tent or, preferably, carbolized cotton; if at hand, prepared tow; then pack the cul de sac around the os thoroughly, and apply the air-bag. The hæmorrhage is thus effectually controlled, and prevents the accumulation of an unknown quantity of blood between the os and air-bag. Threads attached to the plegets of cotton or tow, permit of their ready removal.

Whilst endeavoring to prune these notes, I find there are many points bearing on the management of the parturient woman, which I might have dwelt upon, but as their elucidation would require a treatise instead of a simple monograph, and desirous of avoiding unnecessary redundancy, I will only allude to three: Chloroform in parturition, post-partum uterine contractions, and post-partum vaginal injections.

Chloroform in parturition has undoubtedly been a great boon, not only as an allayer of pain and facilitating obstetrical operations, but also as a prophylactic in eclampsias, and as an inciter of regular uterine contractions. I have never seen any ill effects follow its administration; still, others claim that they have met with such accidents. It is only a short time since, Prof. W. T. Lusk read before the New York Ob-

stetrical Society an able monograph on "*The Necessity of Caution in the Use of Chloroform during Labor.*" He stated :

"That chloroform produces, first, slowing of the circulation ; second, venous condition of the blood from an insufficient quantity passing through the pulmonary arteries ; third, a sinking of temperature due to diminished activity of the chemical processes in the organism. To the malign effects of these occurrences the physiological conditions existing during labor offer usually a sufficient barrier. But it is known that loss of blood, and a deficiency of oxygen, both contribute powerfully to exhaust the central nerve apparatus, and render it peculiarly susceptible to the depressing influence of chloroform."

The above-mentioned facts are well known and beyond dispute. Therefore, the greatest caution should be made use of in its administration, and not as was done in the first case, (p. 5) quoted by the Doctor. He says :

"I ordered chloroform (Squibb's) to be given, with a view of relaxing the uterus previous to performing version. When the chloroform was applied over the mouth, the patient began to struggle. *Thereupon the house-physician, true to the teaching that no harm ever comes of chloroform in mid-wifery practice, crowded the paper funnel, which contained a towel wet with the agent, over the respiratory passages.* Almost instantly the patient ceased to breathe, and became pulseless. A considerable time elapsed before she could be resuscitated. Afterward, the slightest inspiration of chloroform brought on alarming symptoms, so that version had to be performed without its assistance. Yet the patient was a strong, healthy woman, free from cardiac or pulmonary complications.

"In this case, the cessation of the pulse and respiration was unquestionably due to irritation of the terminal nasal and pharyngeal branches of the fifth pair of nerves, caused by the sudden inhalation of the concentrated vapor of chloroform, and the consequent production of a reflex suspensive

action upon the heart and diaphragm through the *medium of the vagus.*"*

Here was, then, a clear violation of the principle in the administration of chloroform, i. e., of *allowing a simultaneous atmospheric respiration with a sufficient ratio, and in proportion to the amount of chloroform inhaled*, inculcated by the previously quoted effects of its action, which, as the Doctor very properly stated, exhibited itself in this case through the medium of the vagus.

In administering chloroform, I carry the effect in some cases towards partial anæsthesia, and in others to complete anæsthesia. At the inception of the second stage of labor, like opium, it diminishes nervous irritability, and thereby undoubtedly regulates uterine contractions. Towards the termination of the second stage, it relaxes the perineal spasm.

Complete anæsthesia is necessary in obstetrical operations. In version and forceps, it should cease as soon as *tour de force* is accomplished, i. e., with the delivery of the body of the fœtus in the first instance, and with the traction of the head on to the perinæum in the second place, and, in some rare instances of undue rigidity of the perinæum, on the delivery of the head. In cases of lacerated perinæum operated on, at the immediate completion of parturition, I have not found it necessary to prolong its administration, as the patients were in too quiescent a condition to require it. Yet in those cases, if prolonged anæsthesia were necessary, I would prefer having recourse to ether, as it is undoubtedly much safer than chloroform.

Post-partum uterine contractions are the natural sequences of labor, and therefore normal, but in some instances, owing to an irregular contractile action of the uterine fibres, exceedingly painful. To alleviate this, I have found the sulphate of quinine in five grain doses, repeated every two or three

* The italics are mine.

hours until a scruple or half a drachm has been taken effectively. If there should be a hæmorrhagic tendency, I occasionally combine two grains of ergotine with each dose of quinine, and much nervous irritability, from one-quarter to a third of a grain of codeine. This medication has certainly a dual action; it certainly induces regular and firm contraction of the uterus, and then arrests the susceptibility of the patient to an attack of malaria, especially if she has been previously subject to it. These attacks are by no means uncommon in parturient women, and some have a perfect dread of it. As to the toxic action of quinine either on the embryo during gestation, or on the nursling through its mother's milk, I have yet to see my first case. Still, others have, and as they are reliable observers, it would be well to be cautious.

The post-partum vaginal injection.—This important adjunct is one of the least used by the general practitioner. Yet it will save many patients from the ill effects of septicæmia. Aside from cleanliness, it arrests, when medicated, the decomposition of the lochia and the formation of infusoria, the absorption of which leads to septicæmia, especially when there has been any laceration of the cervix. In the latter instance, the hot-water douches, first suggested to the profession by Dr. A. Jacobi, are admirable. Thorough attention to this simple prophylactic will save, in many instances, months of suffering, and, in some cases, surgical treatment.

In thus presenting to this Association, in a clinical form, a resume of my experience and some of the salient cases occurring in my gynæcological and obstetrical practice, I have simply endeavored to contribute my mite to the general knowledge of this important subject—which is due by one and all to our common profession—trusting that the possible errors of judgment they may contain, or strike one as palpable, may enable others to avoid similar ones. Therefore, as I lay no claims towards specialism, do not pretend

to speak *ex-cathedra*, when I assume that, in addition to the concluding aphorisms of the first part of this monograph, they present for serious consideration the following too often neglected axioms:

1. The careful examination of the new-born child, especially females, for malformation or arrest of development, thus enabling us to avoid, by warning the parents, the dangers of occlusion or of atresia of the vagina. (Case XLVI.)

2. In cases of suspected deformity, to advise the examination of young women prior to marriage, which will enable us to warn them of the dangers of parturition with a deformed pelvis. (Cases IV, V, VI.)

3. To warn those contemplating matrimony against the dangers of an inherited diathesis, such as insanity, syphilis, etc. (Cases XXVII, XXVIII, XXIX, XXXIV.)

4. During gestation to give such directions as will enable the mother to properly fulfill her duties to her offspring. (Case XXXV.)

5. The urgency of physicians having their patients under observation during pregnancy, and from its earliest stages, thus enabling them to avoid the dangers of a contracted pelvis (Cases IV, V, VI, XIX); of albuminuria, (Cases XIII to XX, inclusive); of anæmia, (Case XXXIII); of latent syphilis, (Case XXXIV), and of uterine displacement, (Case XXXVI.)

6. The importance of making, immediately after parturition, an examination of the placenta, especially if traction has been made use of, lest there should be any debris left in uterus, thus avoiding the dangers of secondary hæmorrhage, (Case XI), also of septicæmia.

7. On the completion of parturition, to make a thorough uterine and vaginal examination, lest an inversion, complete or partial, might be overlooked, (Case XXXVIII); or perineal lacerations, etc., (Cases I, II, XLII, XLIII); for the sooner such cases are attended to the better.

8. Before leaving the patient, subsequent to convalescence, to make a careful vaginal and uterine examination, thus avoiding the evil consequences of ununited lacerations, of sub-involution, cystocele, etc. (Cases XLII, XLIII.)

9. The value of quinine as a post-partum contractile tonic and malarial prophylactic.

10. The importance of the post-partum vaginal injection and douche as a preventive of septicæmia and of uterine disorder.

11. Close attention to pelvic cellulitis, lest suppuration occur, and consequently, in some cases, recto-vaginal fistula, etc.

12. Caution in the use of pessaries, especially the self-retaining ones, constructed on strictly physical principles. (Cases LII, LII.)

13. Careful handling of the uterine probe. (Case XLVIII.)

14. Caution in the use of topical applications to the uterus, actual cautery, caustics, etc. (Cases XXXVII, XLIX, L, LI.)

ORIGINAL LECTURES.

ART. II.—*Lectures on Insanity.* By DANIEL H. KITCHEN, M.D., Chief of Staff of the Hospitals on Blackwell's Island, New York. Delivered at Charity Hospital, during October and November, 1876.

LECTURE VI.—TREATMENT.

You may think, perhaps, that to devote an entire lecture to the treatment of insanity, and to go into the details of experience which insane asylums have taught us in the management of the insane, is superfluous; particularly so, because our advice to you is to send each of your insane patients as soon as possible to a public institution.

My reasons are :

1. Knowledge of managing the insane will greatly assist you in cases of general practice where delirium and other symptoms of temporary alienations of mind occur.

2. As a family physician, when you should meet with an insane diathesis, the prophylactic treatment, of which you will soon receive some suggestions, will be of value to your reputation and the good of the patient.

3. Information on that subject is particularly valuable in case you notice or are confronted with an actual outbreak of insanity, because, even if the patient is ultimately sent to an institution, your proper initiation of treatment, will indirectly benefit him or her, for it facilitates the continuation of it by the physician of the hospital.

4. You sometimes will meet with cases where the friends are wealthy and object to an asylum, but prefer the large expense of a proper arrangement for a treatment at home. And I may here sophistically add, that the cure of such a case under these circumstances is a very large feather on your hat.

5. I consider it of no mean value for such of you as are young and have the means of waiting for general practice, to spend a year or two as assistant physician in an institution for the treatment of the insane. You have there the best opportunity to practise the diagnosis of internal maladies by objective symptoms and circumstantial evidences, besides learning to subdue feelings and passions.

Before the middle of the last century there existed actually no medical treatment for the insane; they, if thought to be unoffending, were allowed or rather compelled to wander about, the subject of mockery and occasional charity of the public, but when known, or only thought to be dangerous, or when in a state of excitement, they were arrested, brought to prison, flogged till the excitement yielded to the pain of the wounds and submission was affected, when they were thrown into a cell or dungeon with a little straw in it, chained and fettered, and allowed but scanty nourishment, till death relieved the poor sufferers. Towards the second half of the last century the governments of Europe began to construct

separate buildings for the insane, which they called mad houses, and which were in some instances placed under the care of a physician.

These mad-houses were built like prisons of heavy stone walls, iron doors, and bars around windows, and high stone walls encircling them. This improvement, as it was then called, was really none for the poor lunatics.

The idea that the delusions and excitements must be subdued not only by main force, but by fear of dreadful tortures, brought about the most inhuman treatment. The violent patients were kept handcuffed or with a ring around neck and body, chained to the wall or upon their bench or chair, and often on the floor.

They were kept but half nourished in cells, sometimes three or four together, with no other furniture but some straw and a blanket.

Their nourishment was often given to them as to wild beasts in a cage, through a wicket in the cell. Their straw was rarely changed, and they were allowed to lie in their own filth.

When they had to be cleaned they were led to the wash-house and mopped with cold water and a broom, naked and shackled. The supposition at that time was, that the only means of cure was so thoroughly to change the course of thoughts of the lunatic by extraordinary impressions as to force the delusions out of his brains. Therefore the most horrible tortures were practised. They were flogged to wring another but their delusive confession from them; they were placed in what was called the rotatory chair, where in a sitting or lying position they were whirled around with great velocity, so as to become by giddiness and rush of blood to the head quite unconscious, which was then thought to be the state proper for the patient to begin with new ideas, as the old ones were thereby subdued. Other means to the same effect were employed. Sometimes they were marched

over a plank in the floor, which, suddenly giving way, plunged them many feet down into a cold water bath. On other occasions they were held under water up to the nearest point of suffocation, supposing that the fear of death would promote a cure. Or they were subjected to an ice-cold douche bath and other tortures of the kind.

This state of things continued until the commencement of this century. Pinel, physician in charge of the mad-house at Bicetre, France, and whose name has become immortal in the history of psychological medicine, convinced not only of the inhumanity, but also the irrational method and uselessness of this treatment, began to unchain these unfortunate persons, to treat them as other human beings, and to bring about a complete revolution in the treatment of the insane. And behold it was found that these lunatics were mild, thankful, tractable beings, and not wild beasts.

Dr. Tuke, who took charge of the York Retreat, built and kept under the auspices of Quakers, followed Pinel's inaugurated humanity towards the insane, and began the change of treatment in England.

Since that time one asylum after another in all the civilized countries abolished barbarism, but strange to say it was not until thirty years ago, that this inhuman treatment was completely out of sight in all institutions. At the present day, even the camisole or straight jacket is becoming out of use, and restraint used only in cases of emergency, during very violent attacks or attempts at suicide, and then only temporarily until the patient becomes calmer. So much for the history of asylum treatment of the insane.

We will now take up the subject of rational treatment. I call it rational, because it was not until these abuses were checked that scientific and intellectual researches in regard to the true physical and psychical state of the insane could be instituted.

The manner of treatment at present must be followed up

in three different but inseparable directions: 1. Moral. 2. Hygienic. 3. Medicinal.

Moral treatment.—To the points in the moral treatment I would wish you to pay particular attention, because it will be your duty as physicians to inculcate them upon whoever is attendant upon an insane patient, be it as hospital, or private nurse, or a friend. The first and most important so-called moral treatment, which means measures to impress a patient's mental disposition, is to give the mind rest. This can be done best by removal from home to a quiet place, where no communications with matters and things that might annoy the patient exist.

There is no better place than an institution for the cure of the insane, usually called the "asylum." Before going into the advantages of such a place, I can not but suggest to you never to use the word "asylum" to a patient. That name developes too easily in a patient's mind the idea of restraint, prison, and the like.

Works of fiction have so often produced an abhorrence of such a place in sane individuals, and by the previous treatment of the insane, justly so, that evil thoughts are somehow connected with the hearing of the name. Let us call such institutions "hospitals," and it will impress the patient that he or she is brought there, not to be placed in confinement or under restraint, but to be made well.

The reason why an insane patient should be removed to a hospital as soon as possible, is to separate him from domestic cares and business annoyances. That a violent maniac should be removed is easily impressed upon the friends, even desired by them, but we often find much difficulty to convince them to bring the quiet melancholic to such a place.

It is just this, the first phase of insanity which is much benefited by that step. There are so many things occurring at home to excite a patient, such as monetary matters, domestics, small children, visitors, or if no more than the door bell

etc., that there is no rest at home. Besides it so often occurs that delusions about friends and relations around them exist; for instance, they believe that they conspire against the patient, want to injure or poison him and the like, and this fear often occurs although not expressed, that it becomes an absolute necessity to change quarters.

Now, in removing a patient to a hospital, all deceit should be avoided. It must necessarily be of the worst of consequence to one who already entertains a suspicion towards his relatives and friends, when he finds that instead of a ride to the country, or an excursion to a place of amusement, a mad-house was the object. Better make first of all the necessary preparations, have the vehicle at the door, convey the patient to it, and when asked why and where, tell him or her that it is better for the restoration to health to be placed in a hospital. By kind urging of all around the patient will soon find that remonstrance is useless, and he quietly submits. This, when rightly and judiciously executed, will succeed in a large majority of cases; if not, the mildest force possible must be used. All manacling and tying must be avoided.

In regard to the choice of a hospital, I would advise the preference of a large institution to that of small so-called retreats which are mostly private concerns. There is not only more quiet, systematic and military-like order, so salubrious to an excited mind, but the patient is much less exposed to observation.

At home he was the focus of all fussing; in a small hospital, where only four or five patients are in a ward, he will, upon entering, be a point of novelty and diversion to these, and proportionately annoyed, while in a ward of a large institution the patients as well as the nurses, by the daily occurrence of new arrivals, feel no more the interest in the novelty, and he becomes only that fractional part of observation that he is in number to the rest in the ward.

Another plan to divert the patient's mind by removal is to travel. Unless one, or if possible two (according to the nature of the case), attendants of proven ability and experience as well as integrity can be found, such an attempt should be abandoned, because it is fraught with many accidents and dangers. One attendant is hardly enough, because if his or her duty is properly done it is too irksome not to require rest.

Sometimes the friends or relatives, while opposing a removal to the hospital, consent to place the patient somewhere in the country. A good attendant should accompany the patient and the management not be left to strangers. A quiet, private family without children, residing in a quiet but cheerful country place should be selected. A country seat belonging to the family is by far not as good, and not much improvement on the city home.

Wherever placed, the new home should be made as cheerful as possible to the patient, so that immediately upon entering, all notions of suspicion may vanish and an impression be left that what was promised is being done, *i. e.*, to do him all the good possible to make him well. The proper associations should be sought for the patient; hence it is of vast utility to properly assort the wards.

A gentleman of good education and breeding does not feel comfortable with roughs, no matter if both classes are insane. Therefore it is also of importance in a hospital that the best educated nurses should be put in corresponding wards, and that patients of such a class, even if one or two are a little noisy, should be kept together.

Should the patient board in the country and his state of mind allow it, association with neighbors, etc., can be allowed, but it is to be watched, so as to discontinue it if any mental excitement should follow. All visits from relatives and friends must at first be avoided and subsequently granted according to the nature of the case. Occasionally

it does the patient good, but as a rule, frequent visits, at least, are injurious.

Occupation is one of our best moral medicines. As soon as being what is called acclimatized, the patient must be invited, even urged, to do something, but never be compelled. The best occupation is one out of doors and should be selected according to the patient's previous occupation and habits.

Consideration should also be had in regard to the enjoyment the patient has in what he does. One finds pleasure in working in the fields, another in the stable, or with the hospital carpenter, while some want to sport, go fishing, rowing, playing ten pins, billiards, etc.

If such amusements can be granted and occasion, offers we must take advantage of it. But always if possible out of the house. It is much better for a woman to go to the garden or field and nurse flowers and hoe corn than to sew in the ward, or for a man to be behind the plough or row a boat than to play checkers or wash dishes.

One of the first qualifications of a good attendant is watchfulness and a disposition to be observant. Particularly must it be exercised upon a new patient. It is through those who are all day about a patient, that a physician must accumulate the evidence to form a proper opinion of the case. Every peculiarity of speech should be observed and reported to the physician, not only for the latter's guide for treatment, but also for the attendant himself, so as to be able to tell how far he must extend his watchfulness, or in what direction to give the patient employment.

Many patients are disposed to commit suicide, and when they ask for articles wherewith to commit it, or even which would form a link for a chain of suspicion, extra care and watch must be taken. If, for instance, a patient insists upon making his own bed, which he never liked to do before, you may be sure there is something at the bottom of it (the bed).

I have known a patient to gather all pieces of cords, shoe-strings, strips of cloth, etc., and was afterward found to make a strong rope of it, with which we supposed he wanted to hang himself. To show you how useful an observant eye is sometimes in the treatment of insanity: There was in the ward of one of our hospitals, a man under treatment for melancholia, aged 28. He had been a patient there for nearly two years without much improvement. It happened, that another patient, whose only insanity consisted in irresistible mania for opium eating, but who was a very jolly fellow, and having lived fast and being fond of talking, often gathered around himself in his own little room the attendants and some of the more intelligent of the patients and treated them to stories, some of them not the most æsthetic. It happened that on a certain day the supervisor coming through the ward, observed that our melancholic patient, who previously seldom left his own room, standing in the room adjoining the one of the story teller's with the door half-open, evidently listening to a yarn the latter was relating. The supervisor called an attendant and gave orders to urge the story teller (an intelligent man) to go to the melancholic's room next day alone, to shut the door and to tell him some yarns privately. It was done, the former got a good laugh out of the latter, the backbone was broken and three weeks afterwards the melancholic was discharged cured. He is conducting a business in Baltimore now and is making money. Had he not been observed to listen, the ruse of sending the story teller to his room would never have occurred.

The above also shows the propriety of mixing the depressed and exalted patients together. It will never do to place the melancholic in rooms adjoining or too many in one ward. Nothing is as wholesome for the mind of the insane as cheerful attendants and companions, and much should be done in that direction.

The question of propriety and usefulness to give concerts, balls and other amusing entertainments has arisen. I am decidedly against balls, and although having no objections to concerts, do not believe that good music is appreciated but by a very few. Besides, good music is something rarely to be obtained in a hospital. Humorous and at the same time entertaining lectures, exhibitions of good stereoscopic views and accompanying explanations, amusing theatrical sketches, which are strictly within bound of propriety, are very good entertainments for the insane. The evening, say from 7 to 8 o'clock, is the best time, so that the patients can retire, if possible, with diverted thoughts and ideas.

Persons attending upon the insane should avoid all direct contradictions to the delusions of the patients. Not only that they are useless, but also directly injurious, for they excite the patient. There is no use in calming a mad bull by shaking the red cloth. It takes some tact to get over the difficulty of neither consenting to nor opposing the delusions. The best plan is entirely to ignore them, and to wait for an opportunity to show the patient by his own doings that his error is self evident. The inconsistency of perversity of the insane is of so frequent occurrence that many occasions arise to prove their error.

It is also a fine point how to force a patient to do anything when obstinate in refusing, and how to subdue a maniac when the violence of attack becomes dangerous to himself or others.

The first is usually obtained by kind but decisive urging and making the patient understand that obedience is necessary, and then to leave him or her to execute the order without observing or wanting to notice his obedience. When to subdue a violent outbreak, force must be employed, and that should only be used when all persuasion has failed. There ought to be persons enough to take hold of the patient, so as to convince him that all resistance is useless, when he will generally yield without a struggle.

The non-restraint system is now introduced in nearly all hospitals, so that the best manner of avoiding danger is to lock a patient into a room devoid of furniture or anything else with which an attempt of suicide could be made. In hospitals there are chambers sometimes padded, where light and air enter through a window out of reach of the patient. Some have compartments in the open air, but surrounded by a high wall, where such violent patients may be left during the day. It often occurs, particularly in recent cases of great violence, that the attack is followed by a sudden collapse, it is therefore necessary to have some small opening in the cell through which the patient can be frequently looked after, so that in cases of emergency, no time for medical help may be lost, or else the life of the incarcerated maniac may easily slip through your fingers.

So-called dark rooms are also found in hospitals for insane. I do not approve of their use except in cases of what we might call hyperaesthesia of the optic sense, where every object around the patient seems to make a painful impression and incite to violence. In such instances the dark room is often serviceable and may produce calmness and sleep. But wherever seclusion is used it should never be continued beyond the time actually necessary. In all cases of obstinacy, decision of authority without anger on the part of attendants, together with a sufficient exhibit of strength in numbers, will, in nearly all instances, have more effect and is always better for the patient than the physical strength of one man to subdue the obstinacy.

Hygienic treatment divides itself into three points to be observed.

1. The locality or domicile where the insane are treated.
2. The occupation allowed them, already referred to under "moral treatment."
3. Diet.

Wheresoever the locality the patient is placed, it must

have the same advantages as a large hospital offers; it ought to be situated on a moderately elevated position, built on healthy, and, if possible, hard or rocky ground, not too far from a town where all necessaries can be had, and neither too near nor too far from the friends at home. For a course of lectures like the present it would be out of place to give you a description of a properly built insane hospital, particularly as you can at any time instruct yourself on that subject by personal inspection. Four items are necessary for all domiciles where insane patients are kept, the execution of the details of which are left to the architect. They are, however, so directly connected with the treatment of the insane that the plan of the building should be made under the supervision of a capable physician. They are:

1. Advantages for proper ventilation, and the building of compartments of sufficient air capacity, at least 800 cubic feet per each inmate.]
2. Proper healthy heating apparatus.
3. Sufficient and proper drainage.
4. Sufficient supply of pure water (40 to 50 gallons per inmate.

Having disposed of the occupation of the patients under the head of moral treatment, all that we have to look after is, that the necessary implements for the execution of that part of hygienic means are at hand.

Lastly, a few words upon diet. Physicians of experience have all come to one conclusion on that subject.

The food ought to be: P. P. P.—plenty, pleasant and plain. A diseased brain suffers of waste and tear, hence good digestible food and generous in allowance is recommended. It also should be cooked to entice to eat and served invitingly enough to assist the appetite. A proportionate selection of animal and vegetable food with good bread, and when changed daily in variety of kind, excludes the necessity of having many different kinds of food in one

meal. Plenty, pleasant and plain is all that is necessary and of service to the insane.

We have under consideration the treatment of a disease arising from a physical and functional disorder of one or more organs of the body, and the administration of drugs with the object to counteract the characteristic expressions of the disordered organ is no less the duty of the physician than to operate upon mind through mind; hence the *medicinal treatment* is as important as the *moral*, even if the diseased organ is the one from which arise mental manifestations.

When any organ is out of order, two objects are constantly to be attained: 1. To place the organ at rest and thereby to discontinue its abnormal action, and 2. To remove from influence on that organ the proximate exciting cause which brought it out of order. In this case the brain being the organ to be put to rest, and sleep being the best evidence of rest, the sleep producing drugs or narcotics are and have been the first to draw attention. But as the manner of action of these narcotics on the brain is as different and various as the action of the causes which produced the disorder, therefor the selection of the drug is far from indifferent. I will endeavor to give you some indications for the use of narcotics to counteract the activity and sleeplessness of the insane.

Opium. the greatest known of the narcotics, although useful in many cases, is not a paramount drug in insanity. Examine its action carefully and you will find that it produces an excitement of the nervous system, particularly on the brain, which soon subsides, and sleep is the result of overaction, as in alcohol, only more rapidly. This stimulating action upon the brain already makes its use incompatible in cases of acute mania, with a flushed face, high pulse and an exalted state of the brain, and even if it should in very large doses produce ultimately sleep, it is the sleep

of temporary exhaustion by necessity, resulting from a drug which has aided the over-activity of the brain. But not only should it be avoided in cerebral hyperæmia, but also whenever affections of the heart are concomitants. A long continued use of it is also objectionable on account of its retarding digestion and the influence it exercises upon the alimentary canal, producing either dairrhoea or constipation. This drug is of more benefit in such cases where some deep seated and exhausting disease seems to be the dragging anchor of insanity. Such patients of melancholia, monomania, hypochondriasis, etc., whose appearance is haggard and of an earthy color, who suffer from pain, have little sleep, or when cancer, internal tumors, chronic inflammations internally, tuberculosis, etc., are connected with the brain symptoms, they derive benefit from opium by procuring sleep, alleviating pain and allaying cough. In the form of Dover's powders it often has more effect and is of less annoyance in regard to headache following it, than in other forms. I have found it of great value as Dover's powder in erysipelas.

Conium.—This the most important of narcotics, not only as an alleviating, but as a curative agent in insanity.

The preparations we used were the succus conii, an imported article prepared by Ramson, Hitchen & Co., and the fluid extract made by Squibb, of Brooklyn, N. Y.

The dose of the succus which will produce the physiological action is from a drachm to an ounce, according to the motor activity of the patient; men require larger doses than women. The dose of the fluid extract is from a mxx to a drachm; mxx of the extract prepared by Squibb is equal to about a drachm of the succus conii.

From experiments we observed that the temperature and pulse are both lowered without any apparent effect on the respirations. In these investigations we have administered and carefully observed its effects in 150 different patients,

embracing cases of mania, melancholia, and hysteria. In attempting to appreciate correctly the physiological effects of conium, particular regard and attention must be given to the preparation used. Conium has a variable reputation as a medicine, caused mostly as we think by the uncertain preparations so long employed.

It is only within a very recent date that reliance could be placed on any of its preparations. Harley was the first to give any really satisfactory experiments to the profession, but all *materia medicas* speak highly of the drug when a pure article is obtained. The fluid extract is more commonly prescribed on account of its comparative cheapness. The succus conii is much more expensive and for various reasons more difficult to secure of a uniform character. In these experiments both with the fluid extract and succus, we have not failed to obtain a well marked sedative effect after a full dose; though using it largely, we have not discovered any injurious effects, as symptoms of poisoning, described by some of the older writers.

The succus is more palatable than the extract, and rarely, if ever, produces any unpleasant effects, while in a few instances the extract has caused slight nausea, even though well diluted with water. After administering these two preparations in different vehicles, we conclude that ice-cold water is the best. We have taken the temperature in a large proportion of cases, which showed an average reduction of from one to two degrees after the full physiological effects are induced. No appreciable effect is observed on the respiration, and no change in either quantity or quality of the urine.

The general effects of conium as given by all writers are very much the same. The most prominent we have observed, after repeated experiments, are general muscular relaxation; after the relaxation, quietness followed by calm sleep. The following physiological effects are observed in

from ten to twenty-five minutes after a full dose is taken :

1. Suffusion of the eyes and injection of the conjunctivæ.
2. Giddiness and sensation of weight along the orbit.
3. Dimness of vision and dilatation of the pupils.
4. Inability for mental effort.
5. Languor, muscular weakness, with a strong desire to assume a recumbent posture.
6. A dragging sensation in the limbs.
7. Pulse and temperature lowered.
8. Gentle glow of perspiration over whole body.
9. Usually in half an hour the ordinary patient is asleep.

The majority of these sensations are observed in every instance. The whole motor functions of the patient under the influence of conium pass into repose. Harley says conium, in a state of health and in the fullest medicinal doses that can be given, exerts its power chiefly, if not exclusively, upon the motor centers within the cranium, and of these the *corpora striata* are the principal parts affected. This appears in the great rapidity with which the paralyzing influence radiates through the body ; so sudden and powerful is its action in full doses, that sometimes if the patient be standing at the time of its accession, he has scarcely time to throw out his arms and lay hold of some support to prevent himself from falling ; and in lesser doses there is sudden depression of muscular power. Again, many patients experience, when the action of hemlock is at its height, a dull aching pain across the brows, over the roofs of the orbits, and at the back of the eye balls, sensations manifestly referable to the *corpora striata*.

We have failed to discover any direct hypnotic effect as in chloral hydrate ; yet sleep follows very rapidly, as it almost always follows muscular relaxation, and in a natural way. Patients describe the sensation produced by a dose of conium, as one of general lassitude and languor, and many compare it

to the sticking of pins or needles in the flesh, or to the sensation produced by passing a comb or brush down the back. One very intelligent patient, in half an hour after taking one drachm of the fluid extract said it reminded her of the sensation of a gentle interrupted current of a galvanic battery. Patients readily become accustomed to its use, and in a few days do not mention any unpleasant sensations. Those given above are all referable to the central ganglia of the spinal system.

The effect of conium upon the motor activity is more marked than upon the muscular strength. A full dose does not reduce the muscular power of the individual, but from free exercise he becomes tired and exhausted. Its action, however, differs in different persons. Those who lead an active life require larger doses, but its effect is readily perceived and more lasting. In cases of mania, muscular activity and endurance are present and prolonged to a remarkable degree; many persons apparently feeble will continue for weeks and months in a state of almost constant muscular activity, and rarely express weariness; these are particularly benefited by liberal doses of conium.

Harley claims to have demonstrated that it does not act directly on the brain.

It is said that "Socrates after swallowing the poisoned cup walked about for a short time, as he was directed by the executioner; when he felt a sense of heaviness in his limbs, he lay down on his back; his feet and legs first lost their sensibility, and became stiff and cold, and this stage gradually extended upwards to his heart when he died convulsed, his mind remaining clear and active up to the moment of his death." Whyte says of himself: "In a little more than half an hour after swallowing fifteen or twenty grains of the *extractum cicutæ*, I have been affected with a weakness and dazzling of my eyes, together with a giddiness and debility of my whole body, especially of the muscles of my arms and legs, so that when I attempted to walk I was apt to

stagger like a person who had drunk too much strong liquor." Dr. J. Chrichton Browne says, "conium soothes and mollifies the motor centers, especially when they are irritable and excited, and does not, as has been alleged, disastrously depress muscular activity; no weariness, weakness or oppression remains, and hence its great value in mania." Every physician appreciates the necessity of perfect rest in the treatment of disease, and especially is this so in mania and melancholia. The rest most desired is muscular relaxation; and conium acting directly upon the motor centres gives us this. The full action of conium induces sleep; it operates on the whole motor tract, just as opium does on the brain; it quiets and renovates the whole muscular system; at first it seems to paralyze, but it is indirectly a tonic, for its continued administration almost invariably results in an improved condition of the general health. Its effect is the counterpart of that of strychnia, in that it quiets and conserves nervous energy and leaves the muscles to sink into rest, while strychnia excites and produces long and powerful contractions of the muscles. The full physiological effect must be obtained in each instance or the most beneficial effect will not be secured. We have frequently observed the strong and powerful man in mania and melancholia, after taking a full dose, become quiet, and this state is very soon followed by prolonged sleep from which he awakes much refreshed. An eminent writer on conium says, "to give hemlock in doses that fail to produce an appreciable effect upon the motor system is to give repeatedly the hundredth of a grain of morphine to one dying for want of sleep, or a grain of quina to cure an ague fit." Sufficient having been said upon the action of conium we will now consider its value in certain nervous diseases.

We have given Squibb's fluid extract of conium in eleven cases of epilepsy of long standing, complicated with dementia; fits were lessened somewhat in number and severity,

though none were entirely relieved. We believe conium is of the highest value in this disease, while it can do no harm; under its long continued administration the general health of the patient improves, as it does not in any way interfere with digestion or any of the secretions.

In several cases of facial erysipelas with great restlessness, while bromide of potassium proved to be of little use, conium relieved pain, and sleep followed. In two cases the physiological effects were kept up during the acute stage, with the happiest results to patients. Prof. Mitchell, who has large experience in the treatment of erysipelas by conium, says, "the combination of blue mass with the extract of hemlock unites a desirable soothing influence with a favorable alterative agency. I have employed this combination with the two-fold intention named, in erysipelas that returned very frequently, affecting almost exclusively the face. By persisting in the use of pills containing one-half grain of the blue mass, with one grain of the extract for a few weeks, I have succeeded in so changing the diathesis as to lengthen the interval of attack from three weeks to six months, and at last to effect complete recovery."

A few cases of sciatica have received considerable relief by conium, and a number of cases of migraine dependent on dysmenorrhœa, were successfully treated by administering the succus conii a few days previous, continuing it through the menstrual period and a few days after. In these cases chloral hydrate gave only temporary and imperfect relief. In hysteria with epileptiform convulsions, conium given in full and repeated doses affords much benefit. By repeated doses we control the tendency to hysteria, though by this we do not mean to say hysteria is permanently and invariably cured. The following is a case in point: a young woman, aged 19, last spring had an attack of acute mania, which lasted for several months; she became nervous, irritable, of an excitable temper, complained of pain in the

head and loins, which was followed by an epileptiform seizure of short duration. After the fit the patient remembered all that transpired, and with the exception of slight nausea, was in her usual condition, though nervous. She continued to have frequent hysterical convulsions of an epileptiform character. Succus conii was given in drachm doses four times a day and continued. Since that time she has had only two fits, which were very slight and her general health has very much improved. Her appetite is good and she sleeps well at night, and at time of writing has shown no tendency to hysteria for more than two months.

At the West Riding Lunatic Asylum, Dr. J. W. Burman has made many valuable experiments with *conia* hypodermically administered.

He says :

After having injected m. x. of this solution in my right arm, I went off immediately to play billiards; there was considerable local smarting for a few seconds after the injection; in fifteen minutes there was confusion of vision and slight weakness of the legs; in twenty minutes there was some numbness and tingling of the arm as well, and the eyelids felt heavy; in twenty-five minutes the weakness of the knees and legs was more marked, and there was a certain amount of unsteadiness in my gait, as I walked around the table; in thirty-five minutes the numbness and weakness of both arms and legs were well marked, and I felt that I handled the cue awkwardly, and that when standing still there was an inclination to give away backwards and forwards, while the knees began to give way under me; my voice was now rather thick, and I mumbled my words somewhat when speaking; in forty-five minutes I was fast losing all interest in the game, and doubted whether I could go on with it, but I managed to do it by great effort; there was now much confusion of vision, and the weakness of both arms and legs intensified; I could not walk without stagger

ing; in one hour and ten minutes I had finished the game of billiards and left for a walk; my legs were stiff and awkward in motion, and it was just as much as I could do to get along; I had to progress slowly; there was a great feeling of calm tranquillity and some slowness of mental processes, in fact all my movements were slow and labored; I felt with regard to my limbs as if I was getting up to walk after a short rest at the end of a day's good pedestrianism, and altogether a quiet rest on the sofa would have been most acceptable to me. It was now only possible to get up stairs with the greatest effort, and I did so in a very awkward manner, and often knocked my toes against the steps; but strange to say, I felt it more difficult to go *down* than *up*. When I sat down, I had to let myself suddenly down when within a few inches of the seat. As the sequel showed, the effects were now at about their maximum intensity; but I continued to keep moving again. In an hour and thirty-five minutes vision was about right again and the effects were diminishing in intensity; the feeling of calm and tranquillity was still great. In two hours and twenty minutes the legs were nearly all right again, but the arms were still weak. Three hours after the injection I felt quite well again and sat down and ate a hearty dinner, feeling none the worse for the experiment on myself.

[To be continued.]

TRANSLATIONS.

ART. III.—*Diseases of the Nervous System.* Lectures delivered at the Faculty of Medicine, Paris, during 1877, by A. VULPIAN, Dean of the Paris Faculty of Medicine, member of L'Institut, and of L'Académie de Médecine de Paris, Physician to L'Hôpital de la Charité, etc., etc, reported and published by Doctor BOURCERET, and translated from the French by FRANK D. BEANE, A.M., M.D., Ex-Fellow of the Massachusetts Medical Society; member of the New York County Medical Society.

The course for this year shall be as follows, the completion of last year's.

I had begun the methodical account of facts in experimental pathology which furnish data for the natural history of affections of the nervous system. This year I propose to continue and finish this study. But first I will concisely review the different points which I treated in my former course; I will review so as to consider the ground gone over, and see what remains to be done in order to accomplish our task.

I recall to you we should lay aside the nervous system of organic life, or the system of the great sympathetic, as almost completed, so as only to occupy ourselves with the nervous system of animal life. As I told you at the end of last session, I have already treated of the great sympathetic in my "Lectures on the Vaso-Motors." We have, then, only to view the experimental pathology of nerves, or nervous conductors, and the myelo-encephalon or cerebro-spinal axis, comprising the spinal marrow, medulla oblongata, tuber annulare [pons varolii], cerebral lobes, with the various divisions of the cerebrum.

We first studied the experimental pathology of nerves. In the first place we were occupied with traumatic nerve

lesions. Experimental pathology was on sure ground here, since our ideas, for the most part, on pathology of the nerves rest upon experiment, and the share furnished by experimental pathology to human pathology is very considerable. You well understand why it should be so. Cases of traumatic nerve lesions are not very frequent in man. Experiment, on the contrary, allows the production at will of a special lesion of a nerve, and to follow, step by step, the changes to which this injury gives rise.

It is experimental pathology which has revealed the degeneration of divided nerves, the anatomical changes which they cause in their peripheral as well as their central extremities. I explained the exact condition of our knowledge of the consequences of traumatic nerve lesions, and I have been able to demonstrate to you on animals the structural changes in peripheral portions of divided nerves—disappearance of the myelin and axis-cylinder, irritation of inter-fascicular connective tissues, etc. You have likewise seen the physiological alterations which occur, *pari passu*, not only in the functions but also in the properties of these degenerated nerves. The experiments of Longet have shown you that the peripheral end of a divided nerve rapidly loses its physiological properties, and diminution of excitability begins when anatomical alterations of the nerve fibres are no longer visible under the microscope. Thus, since the myeline substance does not begin to disintegrate till the fourth day, excitability of the nerve is diminished two days after section. On the other hand, we have been able to follow, day by day, the regeneration of cut nerves, the nature of such regeneration and its sequelæ. Afterward we studied the modifications which nerve lesions cause in tissues which they deprive of nerve force, particularly in muscles; we saw these changes consisted of alteration of structure and material enfeebling of muscular contractility. But muscles are not solely affected; bones, joints, cellular tissue, and skin

are likewise altered. We have discussed the process of these secondary changes.

Then we examined the influence of mixed nerves on local circulations; we have been able to experimentally establish vaso-motor affections and derangements of calorification, which are its sequelæ.

We have been forced to admit that the cerebro spinal centres, and more especially the spinal marrow and medulla oblongata, wield a trophic power over all tissues, an influence transmitted not through the medium of special nerve fibres called trophic, but, through the motor, sensitive and sympathetic nerve fibres, according to the tissue upon which it acts.

We have seen the influence of regeneration of divided nerves upon secondary trophic changes, upon those in muscles more especially, an influence which can be aided by electricity.

Put in possession of these facts obtained from experiment, we have shown the same thing takes place in man, and the clinic allows us more fully to study secondary dystrophic changes in different tissues, notably the skin, since the anatomical structure of the skin in man and its very active function provides a very favorable spot for the development of these lesions. After having studied traumatic nerve lesions and their consequences, we were qualified to seek the explanation of the mode of production of various symptoms, their development, and the result of treatment in certain nerve affections; such, for example, as rheumatic neurosis, saturnine paralytic affections, diphtheritic pharyngeal paralysis, idiopathic neuritis, peripheral nerve atrophies, etc. Then we attempted to establish the pathological physiology of neuralgiæ. We sought especially to show that, in a number of cases, neuralgiæ are of central origin, and even in the cases where the cause of neuralgia is evidently peripheral,

there is, at the end of a certain time, participation of the nerve centres.

This participation explains: 1st. The extension of neuralgia from the primarily affected nerve branch to the branches of the same trunk what is more frequent to another nerve trunk. 2d. The persistence or relapse of neuralgia in certain cases after section of the nerves along the tract which seemed to be the seat of pain.

We should discuss, apropos of these questions, the new theories, based upon more or less precise knowledge of the peripheral twigs (*anses*), theories brought forward to explain the persistence of neuralgiæ after division of nerves and their extension to other branches (experiments of Arloing and Tripier). In the presence of these two hypotheses, one explaining all by central nervous communication, the other by peripheral communication, we have sided with the former, not altogether denying a certain role to peripheral anastomoses. Nevertheless, the explanation of the character of these anastomoses seemed to us, if not wholly inaccurate, at least lacking in important support.

Such are the principal questions relative to the pathology of nerves of animal life. We have not left the region of generalities to explore the pathological physiology of special nerve lesions. Time will not permit; and, besides, we have seen what is more interesting and useful, since they are views applicable to all special cases.

Following these studies of nerves, we entered upon the pathology of the spinal cord, and we pursued nearly the same method, namely, to seek to unravel, by the aid of experimental pathology, problems evolved from clinical observation. We reached the domain of spinal pathology through a road which our studies on the nerves opened to us.

We have seen that nerve actions determine lesions not only in the peripheral, but even in the central nerve ends.

The following questions, therefore, arise. Do changes in the central extremity of nerves confine themselves to that end, or do they extend to the spinal marrow? And if they extend there, under what form does this extension appear? And, finally, what medullary changes take place?

We have already been induced to admit this reflection of nerve affections upon the medulla spinalis from our studies of neuralgiæ. This was an hypothesis the probabilities of which seemed to me for a long time to be very great. But it was only a theory, direct examination had not demonstrated the truth of this reflection (*retentissement*.)

Now, proof is no longer wanting; it is established. It may be plainly seen in the medullary changes following amputation.

At first there are changes in the central end of the divided nerve; simple atrophy of the nerve cylinders takes place, then disappearance of a portion of these cylinders, as long as there is a continuance of this process, with proliferation of the interstitial connective tissue of the neurilemma, whence follows a kind of reticulum (*réseau*) of connective tissue, as seen in transverse sections.

If, then, one has occasion to examine the medulla spinalis a certain time after the operation, atrophy of all the half corresponding to that organ in the region of origin of the cut nerves may be found. This atrophy especially occupies the posterior horn and column, and seems to be simple. This process of simple atrophy seems to be the point of departure for very extensive affections of the spinal cord. But I entertain doubts in this regard. In each case it may be the point of departure of motor and sensitive affections of the stump (painful spasm and neuralgia), atrophy of the stump muscles, and even general neurosis, like epilepsy.

It is certainly the division of nerves which causes, in the case of amputation, these changes in the medulla, for simple

sections of nerves in animals produce the same effect, as I have proven by numerous experiments. But this is not all. Experiments made by various writers—M. Tiesler, Friemberg, Kleumm—under M. Leyden's supervision, demonstrated that irritative nerve lesions give rise to the symptoms of myelitis, with production of paralysis. M. Hayene's experiments have confirmed these data. Nerve stretching in the rabbit, the cat, and even simple division, or, better still, cauterizations, have given rise to more or less extensive myelitis, sometimes general. I do not dwell on this point because I shall have occasion to return to it whilst on myelites. But I recall to you the importance of these facts in explanation of so-called *reflex* paralyses (this is a point already dwelt upon by M. Leyden, and on which I especially insist), of *reflex* atrophies, that is to say, recurrent muscular atrophies, so as to explain their origin in the limb in which the irritative lesion exists, but able, like reflex acts, *per se*, to extend to other locations.

Thus I have; in one of my wards, a patient who has been struck on the *inferior* part of the right lower leg by a piece of shell. He did not improve during two years, but at the end of that time atrophy began, which, to-day, is considerable, and involves the whole limb. What has taken place? There has been change in one of the nerves included in the wound, then secondary change in the medulla spinalis, especially of the gray substance, and, finally, muscular atrophy. Most frequently atrophy is immediate, or almost so, as may be seen in atrophy consequent upon neuralgiæ, inflammation of joints, and hyarthrosis.

The mechanism of reflex atrophy is well shown by what often occurs in Guinea-pigs, following division of a sciatic nerve, when the section is carried only through the largest branch of the trunk of that nerve, through the great sciatic nerve. I have seen in these cases the small sciatic nerve, which had not been touched during the operation, atrophy

at the end of a certain time (simple atrophy); the muscles supplied by that nerve branch also undergo a mild atrophy. It should be stated, however, that *reflex* atrophy in man can be still further questioned, as it has no existence in the light of experimental pathological facts.

But the influences of nerve lesions upon the spinal cord and medulla oblongata are not limited to this point.

Sudden irritation of the mesocephalo-spinal axis of a special kind, seat, limit, and character, having a wounded or diseased nerve for its point of departure, may evidence itself by the phenomena of tetanus. It is traumatic tetanus.

Tetany probably has the same mode of origin in certain cases, but it is also possible that the irritation takes its origin directly in the medulla spinalis.

Reflex convulsions and contractures, reflex hysteria and epilepsy, are to be explained through this secondary irritation of the spinal cord.

Reflex epilepsy, which, for a time, was considered theoretical, has been absolutely demonstrated by experimental pathology (experiments of Brown-Sequard, etc.). It is apparent that the knowledge of the effects upon the cord produced by nerve-lesions has thrown great light upon spinal pathology in particular, and upon the nerve-centers in general.

The study of its effects has fully introduced us to spinal pathology; but, thus far, we have been able to examine only a very small part of this pathology.

The spinal marrow can undergo direct injury from traumatic lesions, or affections arising in their stead, in its immediate vicinity, in its membranes, or in its own tissue. We have carefully examined the symptomatology of traumatic lesions. Even here, generally, experimental pathology can greatly aid us; for, on the one hand, nothing is easier than to reproduce in animals a great number of lesions which obtain in the spinal cord in man; on the other hand, we can voluntarily change, in animals, the seat and extent

of lesions, and obtain comparately simple symptomatic phenomena.

Thus, by almost unexceptionally supporting ourselves by experiment, we have studied concussion of the spinal cord, displacement and stretching (*l'elongation et les tiraillements*), contusions, and more especially, wounds of this nervous center. We have successively seen the effects of complete solutions of continuity of the cord, that these lesions consist of bruising or a clean division; then we considered the effects of *partial* transverse section of that organ.

We have seen the influence these lesions exercise on voluntary movements, on reflex movements, on sensibility, respiration (injuries of the cervical region), general and local circulation (heart, vessels, vaso-motor action), temperature, functions of the skin, nutrition of muscles, cellular tissue, bones, joints, skin (eruptions, changes in the pilary system, changes in the skin itself, sphaelus), etc. We have noted the differences which exist under these various relations, whether the injury is more or less high up in the cord, whether such and such constituent part of the organ is involved. Finally, we examined a last question of great theoretical and practical moment, whether wounds of the spinal cord are susceptible of cicatrization with resumption of functions in the divided parts.

This is a difficult problem to solve by the study of simple partial sections of the cord. In effect it includes the difficulties of a special (*directe*) anatomical research; and, as to arguments drawn from more or less complete return of functions in the parts in which these functions have been primarily abolished, or prevented, or weakened by the spinal lesion, they should only be accorded the significance which would be attributed at first, since there always are, in the beginning of an experimental lesion of the cord, effects which are consequent upon exposing that organ, bruising, and stretching (*des tiraillements*) [handling?], in a word, the dif-

ferent kinds of violence sustained by the parts nearest that touched by the instrument. These effects disappear more or less quickly; sometimes in a few moments, other times at the end of some hours or even one or many days.

It is very necessary to guard against accepting the improvement of the first few days as indications of commencing cicatrization. What I say on this point, I say of all vivisections, especially those pertaining to the nervous system; medulla oblongata, tuber annulare [Pons Varolii], corpora striata, optic thalami, cerebellum, cerebrum.

On the other hand it is certain that more or less adequate supplies can be furnished the spinal cord, whereby, in a variable measure, functions, at first enfeebled or even abolished, may be re-established. This is very clearly defined in animals, and should also obtain in man. In animals, division of one-half of the dorsal cord, at first wholly abolishes movement in the corresponding hind leg, and sensibility in the hind leg of the opposite side, more or less feebly. Gradually sensibility, at first, returns in the limb opposite the section, more or less feebly [at first], then progressively increasing, without, perhaps, attaining the normal standard. But motion itself does not remain abolished in the leg corresponding to the division, thanks to the possible communication of one side of the cord with the other through the gray matter of the anterior commissure.

And I say nothing of mistakes made by experimenters when they do not make their vivisections by wholly exposing the parts (*tout à fait à découvert*), as the division is incomplete by so much, it encroaches upon parts which should be avoided. The only experiments at all valuable in the solution of this problem, are those wherein complete section of the cord is practiced, and for a stronger reason, those in which a medullary piece, including the whole thickness of the cord, is resected. I have demonstrated the corroborative results obtained by Arnemann, Flourens, Brown-Séquard,

Masiers and Vanlair, and Naunyn and Eichhorst. Then I weighed the objections which can be urged against the conclusions of these writers, objections drawn from experiments. I have made a great number of experiments on frogs, pigeons, guinea-pigs, etc., and I have always obtained negative results. A work by M. Schiefferdecker has appeared in Germany since last year, in which this question is also considered; the author's conclusions are, or nearly so, like mine. It is not only in theory that the possibility of apparent regeneration can be denied, and especially cicatrization with return of function, as seen in nerves, and spinal marrow even, of certain animals (salamanders and lizards), but it is exclusively a question as regards mammals (*les vertébrés supérieurs*).

I claim it is an important question, since it is supported not only by the study of traumatic cord lesions, but also by the consideration of what remains for us to pursue in regard to affections of the nervous centers—scleroses, not only cylindrical but cellular nerve atrophies of the gray matter (infantile atrophic paralysis, progressive muscular atrophy). Perhaps it is not necessary to absolutely deny the possibility of cicatrization with return of functions, but I think serious doubts should be entertained. We shall return to this question in the course of a year.

Here ends last year's course. You see we only *touched* upon medullary pathology. We have only spoken of surgical lesions of the marrow, and still we did not study compression of the cord in a special manner. We voluntarily laid it aside since it appeared to us there would be advantage in including under one general consideration all cases in which the spinal cord can be compressed.

We shall first speak of compression of the cord due to a wound, to neighboring tumors, or tumors of the vertebræ, of the membranes, of the cord itself.

Then we shall treat—and this is the greater division of spinal pathology—of all idiopathic lesions of the meninges

and cord: spinal meningitis and its varieties, intra or extra-meningeal hæmorrhages, necrotic softening of the cord, acute diffused myelitis and its various forms, suppurative and hyperplastic interstitial myelitis, acute and chronic systemic myelitis, comprising locomotor-ataxia, symmetrical sclerosis of the lateral columns, infantile muscular atrophy, progressive spinal paralysis, chronic myelitis, diffuse or *en plaques*, sclerosis *en plaques*, transverse sclerosis, which is simply a variety.

Right here, too, tumors of the cord, and spinal hæmorrhage deserve mention in another view than as compressions. To determine what relates to spinal pathology we must also study cord lesions which have their point of departure in changes in the encephalic centers; I mean descendant atrophies, more or less complicated by sclerosis. We shall thus have considered, for the most part, injuries of the cord having their point of departure in peripheral changes, propagated to the spinal; those arising or produced in the cord itself (*sur place*), those standing in the relation of cause and effect, and lastly, those arising in the encephalon, and extending to the spinal marrow.

This shall be the programme for the first part of the coming session.

We shall, in the second part, approach the consideration of the pathology of the encephalon, medulla oblongata, tuber annulare [Pons Varolii], cerebral peduncles, tubercula quadrigemina, cerebellum, corpora striata, optici thalami, centrum ovale of Vieussens, gray matter of the cortex, and cerebral meninges.

Here, as is plain, is a vast field for study; and it will be impossible for us to examine the whole, should we treat the questions I have mentioned in detail; it would be too extensive an undertaking, consequently we shall depart from our plan.

We shall, then, array ourselves wholly in the light of ex-

perimental pathology, and seek to explain the mode of origin and pathology of these various diseases, as well as the *modus operandi* of therapeutic agents. Such is the goal of experimental pathology. This science renders special service through the explanations it furnishes, though we are far from saying it explains everything.

This relative lack of power of experimental pathology first holds good in this, that experiment is absolutely impotent, at least at present, to originate in animals *diseases* affecting man. Generally, it only produces *wounds*, not diseases; even in the case where the similitude appears perfect there certainly is not absolute identity. This may be said, for example, of experimental glycosuria, which is only a physiological derangement more or less ephemeral, *but always transient*, and surely tending to disappear, and, besides, is only *one* of the symptoms of diabetes.

We produce glycosuria and not diabetes.

One of the experimental diseases which best reproduces the principal characteristics of the corresponding human affection, is epilepsy; and, whilst this is very certainly only *one* of the forms of epilepsy which is seen in man, and, too, since it becomes hereditary in animals, it tends to disappear quickly.

I chose my examples in the pathology of the nervous system designedly; but what I said there applies to general nosology (pneumonia, cardiac affections, etc.).

To return to diseases of the nervous system: How can experimental pathology give us the key to the pathogeny of locomotor ataxia, for example, when it cannot reproduce that affection? It is the same in sclerosis *en plaque*, symmetrical sclerosis of the lateral columns, and progressive muscular atrophy.

Thus, the cause of the impotency of experimental pathology is its inability to produce disease, it can only cause a lesion.

If it be determined to study locomotor ataxia, can we not originate in the cord a process analagous to what gradually, regularly takes place in the posterior columns? Evidently not. We can cut the posterior columns transversely, we can even lift them up over a certain area, an operation which, however, condemns the animal to speedy death, but we cannot set up any morbid action analagous even to that of *tabes dorsalis*, which simply consists of a parenchymatous irritation and very slow atrophy of the filaments (*tubes*), with consecutive multiplication of interstitial elements.

Think you there is an analogy, at least, in the period of progress? None at all. For there always exists in ataxia, *irritation*, which plays a great role, which gives rise to phenomena of pain, and aggravates all the symptoms. If you wish to understand this difference, compare the case where the disease is active, in process of evolution, to that where the disease, whether spontaneously or under the influence of treatment, is brought to a standstill; and in this last condition alone is it that we expect to reproduce it in animals if the operation were consistent with the life and integrity of sub-adjacent parts. Well, it is only this lesion, this infirmity, which shall thereby be produced, and not the disease.

What complicates the question still more is the difficulty, often very great, of studying motor troubles with precision, and especially affections of sensibility of instinct and intelligence in animals. I should finally add that experimental pathology furnishes few indications for prognosis and treatment. We can, because of our inability to reproduce disease, only study the action of remedies on healthy organisms. But we shall not understand whether effects obtained upon the healthy nervous centres are the same when a part of the organism is the seat of a disease. On the other hand, we shall be in the dark as to whether a remedial agent, which does not affect healthy organs, does act on them

when suffering special disease. Nevertheless, under even these unfavorable conditions, experimental pathology can, and already has rendered great services. It, and it alone, can render the mechanism of the origin of a great number of lesions clear. It gives us ground for the explanation of the symptoms we see, to define their significance and value; it demonstrates, in a certain number of cases, what we should fear, what we should hope for; and, finally, it furnishes us certain signs as to the probable *modus operandi* of remedial agents. We shall find traces of its deeds throughout the history of all affections of the nervous system, and by what has been done shall we judge what remains to be done. You shall find numerous subjects for investigation. Experimental pathology cannot substitute bedside experience. The clinic should be your principal employment. But experimental pathology powerfully aids, in many cases, the special instruction of the clinic, in translating it into clear, scientific ideas, useful in practice and gratifying to the mind.

MISCELLANY.

Blow ye the trumpet, blow! The OHIO MEDICAL AND SURGICAL JOURNAL is the only bi-monthly published in the United States. It is, therefore, the best of its tribe, and no family should be without it. A few subscriptions will still be taken. "Step up to the captain's office and settle!" The prolific *Lancet and Clinic*, published in Cincinnati, calls us an "obscure, rural periodical," which reminds us of the following from Æsop: "A sow and a bitch happening to meet, a debate arose between them concerning their fruitfulness. The bitch insisted upon it that she brought more at a litter and oftener than any other four-legged creature. (See prospectus of the L. and C.) Ay, says the sow, you do indeed, but you are always in so much haste about it that you bring your puppies into the world blind."

Dysmenorrhœa; its treatment. By H. E. WOODBURY, M.D., Washington' District Columbia.

The practitioner often meets with cases of this disease of a distressing and troublesome type. Numerous remedies and modes of treatment have been proposed, but these often prove inefficient. As this painful and injurious condition may result from different causes, no single plan of treatment will be applicable to every case.

A successful treatment of several obstinate cases, prompts us to give the profession the benefit of our plan, which we hope may be deemed worthy of a trial. Believing that constriction or occlusion of the cervix—the result of sub-acute inflammation or displacement—was frequently the cause of the trouble, we have pursued the following method in all cases in which it was not contra-indicated.

About one week before the time for the menstrual flow to commence, we introduce into the cervix a very small tent made from the bark of the elm (*ulmus Americanus*). We prefer this material because it is safe and cleanly, and never causes inflammation, as the sponge sometimes does. In most of these cases, we have found it very difficult to pass a small tent, moistened, more than half an inch into the cervix, on a first trial, and those used at first are only about one inch in length. After the tent is introduced, a plug of cotton, to which a cord is attached, is passed through the speculum to keep the tent *in situ*. The plug is saturated with carbolic acid and olive oil, or glycerine, parts 1 to 7. By means of the cords attached to the tent and plug, the patient removes them the next morning, and uses an enema of warm water and castile soap. In an obstinate case, we use a tent every day up to the day on which the flow should commence, unless it is established sooner, substituting longer and larger ones as the cervical cavity becomes dilated. So much for the mechanical part of our treatment.

According to the indications of the case, we use one of the following remedies internally:

Concentrated tincture of helonias (false unicorn), Keith & Co's.

Fluid extract of Ergot (Squibb's).

Tincture of gelseminum.

Syrup of the iodide of iron.

The patient commences taking one of the above at least three weeks before the regular date of her flow, and continues it until this is fully established. She then suspends it for a week or ten days, after which she resumes it. Sometimes we get better results from using two of the above-named remedies alternately, as the helonias and the iron, or the ergot and the iron. A gentle current of electricity is passed through the uterus once a day for two or three days before the period. The result of this plan of treatment may be stated briefly, as follows:

During the first period after this treatment, the patient suffers less pain, and the flow is somewhat increased in quantity. If it be persevered in, there will be improvement every month, and after three or four months, the cure will most likely be complete.

In all cases of dysmenorrhœa resulting from the causes we have herein set forth, we have found this plan a practical and successful one. The tent used is bland and unirritating, owing to the amount of mucilage it contains, and, by means of the plug, a gentle pressure is kept up against it. As soon as the tent, on removal, is found to be freely stained with blood, we cease to use it until a week before the next period.

This treatment, it will be perceived, is especially adapted to that class of cases in which some eminent practitioners have recommended and practiced incision of the cervix. We vastly prefer the method here described to incision.—*Virginia Medical Monthly*.

In the *Atlanta Medical and Surgical Journal* of August, appears an interesting article upon "Strictures of the cervical canal and of the internal and external os," by Fredrik Eklund, of Sweden, translated by Dr. A. S. Campbell. The following extract exhibits gynæcology in the light of an uncertain science :

The following agents have been separately proposed as efficacious in the diseases under consideration, namely: the crayons of sulphate of zinc by Braxton Hicks, zinc-alum crayons by Sven Skœldberg, nitrate of silver by Barnes and others, solid Vienna paste by Filhos, liquor nitratis hydrargyri, employed for the first time in the latter part of May, 1818, by Recamier,* and since recommended by Jobert, Lisfranc, Velpeau,† E. Martin,‡ and others. As sufficient experience is already collected for us to be able to form for ourselves a reliable opinion as to the different values of these caustics, it is not devoid of interest to hear the different

* J. V. Gairal, op. cit., loc. cit.

† Henri Despeyroux: *Etude sur les Ulcerations du Col de la Matrice*. Paris, 1872, p. 112.

‡ E. Martin, op. cit., loc. cit.

opinions which writers have expressed concerning these agents; and on this point I will promise, in brief, that all, who in daily practice make use of caustics, have become chargeable with producing stenosis of the cervix.

In regard to sulphate of zinc, Skøldberg* says: "I found that the effect of the sulphate of zinc (in crayons, according to Braxton Hicks's method) was very powerful, and I also saw two cases in which a cicatricial adhesion of the os externum had taken place after its employment. I therefore determined to find some means for mitigating this too powerfully caustic influence." On this application (zinc-alum crayons) Franklin Nyrop† makes, among others, the following remark: "Sometimes also very considerable contractions of the cervical canal may arise therefrom. * * * With Prof. Howitz I have seen in a patient, who was treated by himself, so considerable a stricture that only a fine sound could pass the canal, for which it was necessary to perform bilateral dilation." On the nitrate of silver pencil, E. Martin expresses the following opinion: "Contracting exudations after inflammations of the inner margin of the lips of the uterus, with or without ulceration, under certain circumstances, undoubtedly produce strictures of the internal or external os uteri and cervical canal, particularly if the inflammation has attacked the entire circumference of the mouth of the womb. A similar contraction of the os uteri is induced, as my own experience and the practice of others have taught me, by repeated cauterizations with nitrate of silver in substance; while scarcely in a single instance have I observed this result after numerous cauterizations with acid solution of nitrate of mercury."

Let us now hear the experience of Bernutz and Goupil‡ in regard to the agent last named. These very eminent authors express themselves on this point in the following manner: "A case of 'cicatrization laterale gauche du col,' which we observed in 1848, jointly with piedagnel, had been produced by cauterizations with liquor nitratis hydrargyri, and gave rise to very severe dysmenorrhœa, but did not prevent a complete discharge of the menstrual blood." Another case was that of "a young lady who was the subject of metritis, with granular ulcerations of the neck, extending as far as the interior of the canal. The ulcerations were cau-

* Nordiskt Medicinskt Arkiv. Band I., Nr 9, 1869, p. 6.

† Bibliothek for Læger. Band IV, Heft 2, 1874: Den Intrauterine Behandling, p. 300.

‡ Clinique Medicale sur les Maladies des Femmes. Par G. Bernutz et E. Goupil. Tome I; Paris, 1860.

terized with liquor nitratis hydrargyri and Filhos's caustic (solid Vienna Paste). The result of treatment was occlusion of the external os, which was relieved by vaginal hysterotomy." Not without reason, therefore, Bernutz and Goupil warn against the employment, with sufficient caution, of a therapeutic agent, of which so deplorable an abuse is made.

I have mentioned above what an excellent application tannin crayons are in the lighter forms of uterine catarrh. But in the severer cases, where the ulcerations are more extensive, the papillæ having become hypertrophied or neoplasms of the same structures having taken place, a more powerful agent undoubtedly becomes necessary, and this is the sulphate of copper, which for a century past has been extensively employed without meeting with discredit. On this Stellwag von Carion * expresses the following favorable opinion: "When the mucous membrane is very greatly swollen and relaxed, the catarrhal secretion being quite abundant—and it is, consequently, more a question of a strongly astringent influence than of a powerful caustic effect—sulphate of copper in crystals is unconditionally the best agent." I have had no little experience with this remedy in dilute form (1:5), which I daily employ in the severer cases of uterine catarrh for painting with Playfair's sound † over the entire interior of the uterus, and can testify that it is especially efficacious without being the cause of any inconvenience. It does not erode the mucous membrane of the cervical canal like crayons of nitrate of silver, sulphate of zinc, or the zinc-alum crayons; but I have applied it without producing this injurious effect upon the follicular structures, in which catarrh has its principal seat.

To these agents may be added nitric and chronic acids, the latter being both highly effective and free from danger.

IN the *Medical and Surgical Reporter*, of August 24, Dr. Gould, of Argos, Indiana, writes concerning the opium habit:

In considering the matter of cure of the opium habit, let the following points be kept constantly in remembrance: 1. No other drug or combination produces like effects upon

* Dr. Karl Stellwag von Carion: *Lehrbuch der Praktischen Augenheilkunde*. Wien, 1864, p. 402.

† [See Ziemssen's *Cyclopædia* (Am. Ed.), Vol. X, p. 136; also *Brit. Med. Jour.*, Dec. 11, 1869, and *Lancet*, 1870, II, July 1.]—TRANSLATOR.

the system, therefore nothing else can entirely supply its place. 2. Each preparation of opium possesses its own peculiar power, which differs in a marked degree from the power of every other preparation. For example, if an individual is addicted to the use of morphia, no other preparation of opium, though containing an equivalent quantity of morphia, will supply its place. It will already occur to the reader that opium *must be used* in the cure of the habit; to contend otherwise is evidence of ignorance of the practical phase of the subject. Now, I gradually withdraw the narcotic, but the quantity withdrawn must be compensated for in some way. After years of effort and trial I have discovered that no article will so successfully act this part as nux vomica, and that this may be so combined as to be much more effective than the drug alone. I have not the time to notice all the conditions of the opium eater, and the indications to be met, but shall at once indicate my mode of treatment, which, if associated with sufficient will power on the part of the patient, will be successful in every case.

I prepare an elixir, as follows: Dissolve in 96 fl 3 aqua dest. 10 troy ounces of sodium phos. and 512 grs. val. ammo., then add to the solution 112 fl 3 dilute phos. acid, and 2 fl 3 hydrochloric acid. Now, exhaust, by percolation, with stronger alcohol (8 fl 3) 10.4 grs. *pure* powdered nux vomica, and 160 grs. aromatic powder, U. S. P., driving through the last portions of the menstruum with aq. dest. until it commences to pass cloudy. Mix the percolate with the acid solution of sod. phos.; add to the mixture 16 fl 3 glycerin, filter through paper, and if the measure is short of one gallon, wash the filter with sufficient distilled water to supply the deficiency.

Though I have been using a similar combination for years, for the above formula I am indebted to Dr. Green, of the firm of Chapman, Green & Co., manufacturing chemist, Grand Crossing, Ill.

Now, how do you use it? Suppose that morphia is the preparation taken. In one pint of the elixir I dissolve the amount of the narcotic taken in one month, less 25 per cent., and direct my patient to take 3j four times a day. If the quantity taken is immense, say 20 or 30 grs. per diem, or the system is badly shattered, with much digestive trouble, or intestinal apathy, I double the dose of the elixir.

After the first month I reduce the opiate 20 per cent. monthly, and the patient is not aware of the reduction until the quantity of morphia is comparatively small, depending, of course, on the quantity to which the system had been

habituated. But, should there be rebellion, it will likely be slight, requiring only will power to subject it. In some cases it may be necessary, toward the close of the treatment, to reduce less rapidly, yet I have never reduced less than 20 per cent. The point at which the narcotic is left out, the pure elixir only being given, will depend on circumstances, such as quantity taken, etc. In case of sleeplessness, a full dose of bromide of potassium or sodium will usually produce quiet and rest. In some cases, perhaps, chloral will be required, but, if so, it must be given only when absolutely necessary. I have never been compelled to resort to it. Another matter I will refer to briefly. It is necessary that the patient be as actively employed as the strength will admit, as idleness and constant thought of the habit will retard the cure. Every physician will understand this. And another thing is necessary. In the beginning of the treatment the victim must be determined to succeed, as each successive effort at redemption will meet with a weakened will power. I have not the time to specify all the details of treatment, but they will naturally be suggested to the intelligent physician. It must be remembered, however, that opium is a powerful agent in producing hallucinations, and much of the difficulty (if not actual pain) experienced can be dissipated by the exercise of a strong will.

In conclusion, I will say to the many physicians who have deluged me with letters, that sickness has prevented me from concluding these articles sooner, and also accounts for the rapid disposal of the subject. If, however, the directions I have given are faithfully followed, the most confirmed opium eater can be redeemed, and be redeemed with ease.

The thirty-second annual session of Starling Medical College began October 2d. It was expected that the raising of the standard to conform to the rules of the American Medical College Association, in the face of close and reckless competition, would have a temporary effect to lessen the number of students. We are, therefore, glad to observe that the attendance is fully up to last year, and bids fair to exceed it. It may, therefore, be considered as demonstrated that the profession and public alike demand a more thorough medical education than has heretofore obtained, which is a hopeful

sign of the times. Permanent success is only to be attained by upright conduct, and large classes gained by the sacrifice of principle will not reflect crédit in the long run. "I have seen the wicked in great power, and spreading himself like a green bay-tree. Yet he passed away! and lo he was not: yea, I sought him, but he could not be found."

C O R R E S P O N D E N C E .

NEW YORK, October 16th, 1878.

To the Editor of the Ohio Medical and Surgical Journal :

DEAR DOCTOR: Our summer vacation being over we are again earnestly at work for promoting the study of our healing art. Our medical society meetings are well attended. Our medical colleges are replete with the disciples of Æsculapius, of young men and of many older ones, eager to profit by the teachings of our eminent medical teachers. The college openings took place the first and second days of this month. In the College of Physicians and Surgeons, Prof. Fessenden N. Otis, the well-known syphilographer, a zealous contributor to your esteemed journal, delivered, this year, a highly interesting and instructive introductory lecture of which I herewith send you an abstract for publication. The Doctor said: "As the chosen representative of your Alma Mater to-night, I welcome you to her classic halls. You who, metaphorically, lean, for the first time, upon her ample breast and wait for the draught of that knowledge through which men of general culture are grown into physicians, you I welcome, as sons who, with the world before you, have chosen to become the ministers of healing to the sick; of restoration to the maimed; of comforters to the dying. Your presence here is the promise of a singleness of

purpose, of an industrious and sustained effort for, and self-denying devotion to the highest aim in life! Live steadfastly the fulfillment of this promise, and you will find here ready help and sympathy on every hand. You will, perhaps, be appalled at the outset at the truly formidable requirements of a curriculum which demands the intellectual ingestion and digestion of half a dozen oral lessons daily, besides the necessary practical labors and exercises connected with the usual college course, but with the regular habits of living and thought, and with the habit of systematic study, you will find difficulties diminish as you approach them, and a prompt recompense as you surmount them. * * *

"It is a pleasing office to preside on an occasion such as this, where young men entering into, and in training for, a life long conflict with the physical and mental ills of life are thus brought, for the first time, into fraternal relations with experienced and distinguished members of the medical profession—those who once sat as matriculants, in the seats you now occupy, and who now share with the faculty of the college a solicitude for your immediate interests and a responsibility for your successful future.

"It would be a grateful task to elaborate the thought this meeting suggests. To fill the remainder of the hour with the names and record of the many and distinguished men—alumni of this college—whose life history is written in the medical literature of our country and in the hearts and homes of our people—it could not fail to convey lessons of value in the example of laborious and honorable lives, and to intensify your aims and hopes of future usefulness and distinction. Such a theme, instructive and profitable as it might prove, would, however, be more appropriate for the occasion of graduating from, than entrance into your college course. I have therefore concluded to address myself, at this time, to the consideration of interests more immediate and practical."

The Doctor then reviewed the cell doctrine, quoting

Virchow, who maintains the well-known apothegm: "*Omnis Cellula e Cellula*." The microscope, the Doctor said, taught us that each cell, one thousands of an inch, or less, in diameter, is an independent being, capable of movement, of appropriating food, of digesting it, and of growing thereby; of producing other cells with like properties and powers, and, with its descendants in untold myriads, each giving up its individual existence to become incorporated into the substance of our bodies—feeding with its life fluid the vital current of ours, until these wondrous human tenements, thus fashioned and supported, are carried through the days allotted to their earthly existence. Let us not overlook the vital fact, that its perfect growth, its development, its elevation and highest usefulness, so necessary to ours, are dependent upon the character of its life, and this character is again dependent upon the nature, quality, and quantity of the Pabulum which it appropriates and absorbs.

It is only when the bioplast lives under suitable and favorable conditions that a useful maturity is reached. When its pabulum is suitable in quantity, not excessive; when its associates are pure, that its life is equable, symmetrical, and complete. Surround it with an impure atmosphere, vitiated food, undue excitement; worse than this, let it come in contact with vitiated companions of its own kind, and, instead of growth, development, elevation, and usefulness, this living cell endowed originally with highest capacities will become dwarfed, emasculated, degraded, until it finds its lowest depth through transformation into a *disease germ*—whose touch carries degradation and death, not to kindred cells alone, but to man. The career of a bioplast is determined by its mode of life. Fast living is at the foundation of all its ills. Stimulated beyond a given normal point, its processes are carried on too rapidly for health. Its equipoise once lost, too much pabulum becomes the necessity of its life. Too much pabulum increases its normal activity and

carries it farther and farther from health, until its degeneration is absolute.

The perfect development and highest usefulness of the bioplast on the one hand ; its emasculation, etc., on the other are not mere *accidents*. They are the results of known and immutable laws. * * * * We may affirm in these enlightened days that much evil may be avoided by a conscientious use of the knowledge within our reach.

Some of the gravest evils and ills of the human physical organism are now known to be directly connected with infractions of the laws of our moral and intellectual nature. Among the results of these infractions there is even a distinct class of diseases known as "*voluntary diseases*."

It is especially the consideration of these that I purpose directing your attention to to-night.

A degraded human germinal cell is the starting point of that scourge of erring humanity, *called syphilis*. This disease is always more or less connected with the venereal act. It has existed over 2,000 years before the christian era. It is well known to be communicated by contact with the secretions of one suffering with syphilis. Contact of normal germinal cells with those which have been degraded through the syphilitic influence, brings about a similar degradation in them, and these again acquire the property of degrading other normal germinal cells with which they may come in contact whether in the same or in other persons. The different lesions of syphilis appear as a result of accumulations of cells heaped up by rapid proliferation. In the first place, at the point of inoculation, until by interference with the nutritive processes of the part, a solution of continuity takes place, which is called the chancre, or the initial lesion of syphilis. From thence the poison travels through the lymphatics, and from thence it is transferred into the general blood *current*.

A couple of months elapse, generally, before secondary

manifestations appear. These occur in the skin. Other discomforts also occur usually at this time, such as ulcerations of the mouth and throat, falling of the hair, eyebrows, etc. This period extends over the space of a year or two, and is termed the active period of syphilis. During this time all the secretions of open lesions and the blood furnish a contagious principle. There are three different ways through which syphilis may be acquired.

1. By *direct contact*, (venereal act for instance) or through kissing.

2. By *mediate contagion*. The syphilitic virus may cling to any substances with which they are brought in contact.

The most common source of contagium (or virus) in cases of mediate contagium, is the mucous patch—from the lips, mouth, and fancial lesions in persons passing through the active stages of syphilis. Through the saliva of persons thus affected, a variety of domestic utensils used by them have been the known medium of syphilitic inoculation by contact with abrasions upon the lips of healthy persons without regard to age or sex.

Pipes passed from syphilitic mouths, cigars from syphilitic cigar-makers, canes, pencils, and even sticks of candy contaminated by syphilitic saliva have effected a syphilitic inoculation. Within the last few months, I have met with several cases where there was undoubted evidence of the acquirement of syphilis by mediate contagion.

The first, a young lady with the initial lesion on the lower lip, acquired from her lover's kiss.

The second, a young gentleman, with his initial lesion just within the angle on the right side of the mouth, from a syphilitic friend's pipe.

A third, in the same locality, appearing characteristically about three weeks after a morning spent in a *dentist's chair*.

A fourth, a worthy merchant, with his initial lesion well marked on his lower lip, with several mucous patches in his

mouth and an accompanying syphilitic iritis. In this case the habit of passing among numerous clerks and occasionally transferring a lead pencil from their desks to his mouth. Well marked constitutional syphilis (with complete absence of all genital lesions) was present in each case cited.

Not less than five instances of the acquirement of syphilis by mediate contagion have occurred among physicians and surgeons of my own immediate acquaintance. The initial lesion in each case situated upon the right hand, and resulting from contact with syphilis during the performance of obstetrical or surgical operations.

Syphilis communicated to a mother, by direct or mediate contagion, may be conveyed through her influence to her unborn child. This constitutes the third mode of contagion, and is termed hereditary transmission.

Syphilis, a disease more terrible than small-pox or typhus, may be for a time found to co-exist with bodily vigor, mental activity, cheerfulness, even gaiety of demeanor. Therefore, a tastefully dressed, innocent looking creature, whose well rounded form and brilliant complexion mocks the idea of impaired health. She smiles sweetly upon unwary young strangers passing on fashionable promenades, and yet the touch of her lip may be full of a misery, a wasting degradation, which the regrets of a lifetime shall scarcely be able to efface.

The infection of syphilis is often so stealthy that the subject of it may be quite unaware of its presence, and may thus unwittingly become the focus of a contagion which shall infect even acherished lover, not to take into consideration the paying recipients of her favors.

From a depth of concealment impenetrable, behind a fold of mucous membrane or from within the depths of a hidden sulcus, the germs of syphilis may issue to make a moments illicit contact the starting point of miserable years. The

Doctor next eloquently described the secondary and tertiary lesions of syphilis.

In the name of weak, erring humanity you ask if science has no power to crush out this fearful plague; has medicine no antidote to counteract the subtle contagion which riots through the life channels of an unfortunate, stricken with syphilis?

The answer comes reluctantly. Would that it could be a prompt affirmative. Once launched into the blood tide, the swarming, degraded bioplasts glide beyond the reach of the surgeon's knife. They can not be recalled. Years of study and painful experiment have taught us that syphilis may, under favorable conditions, be virtually cured. *But the conditions are not easy.* It is a question of many months, sometimes of years, and when overlooked or neglected it may prove the question of a life time! The duration of the primary and secondary lesions last one to two years, the so-called tertiary and quarternary periods are, strictly, sequelæ, the results of syphilis. Early, thorough and persistent treatment throughout the active stages affords the only security against the occurrence of these lesions. The sequelæ may appear from two to twenty and even fifty years after the appearance of the original disease, and thus, too, when perfect health has characterized the intervening period.

The Doctor finished his able remarks by alluding to the soft chancre—chancroid—and finally spoke of blenorrhœa of the urethra or, as it is called gonorrhœa. A mucus membrane lining the genito urinary passages becomes inflamed by contact with vitiated secretions, causing gonorrhœa.

It would be well if all these diseases possessed only a physiological interest, but being voluntarily acquired diseases they bring with them shame and suffering, and the liability of blasting all hopes of paternity forever. He described the sequelæ of gonorrhœa, and the frightful suffering caused by one of these, stricture of the urethra.

Often slowly, he said, in two, ten, twenty, and forty years after this implacable disease, contractions may be discovered which, if not speedily removed, may make life a burthen, or introduce some fatal peril through interference with important functions and organs. If the suffering and death from these causes could be written; if the secret agonies, borne under a smiling exterior, could be recognized in the young sufferers passion through the initiatory clap, there would be fewer exposures, and fewer suggestions of its similitude to a bad cold.

Repulsive as we may find a consideration of the *voluntary diseases* in their physical aspects, the moral degradation applied in their acquirement is, if possible, still more so. The pure mind shrinks instinctively from the thought that any but the outcasts and pariahs of society may tread in paths where vice coquettes with disease and disgrace.

But desire for novelty is strong. Youth is easily led. Under the safeguard of correct principles and the restraints of home influence young men may pass through life, even to mature age, with but small conception of its temptations and its perils.

Many a youth on the threshold of a bright and useful life, in a single unguarded moment, has yielded to the tempter, and found too late that the apples of Sodom were turned to ashes in his mouth, and the mark of the beast had been stamped into his flesh. Who shall say how great a responsibility may rest upon those knowing of such dangers, yet failing to make them plain to the young? More, perhaps, than any other of your teachers, it comes to me to realize the temptations and perils that environ young men, and I should feel myself derelict in my duty to you if I failed to take advantage of this occasion to point a wholesome and friendly lesson. How important it is for you to keep your own minds and lives free from the possibilities of demoralization through such causes. To guard against the

approach to every habit and every association which may tend to familiarize you with the sensual, the unchaste, and the vicious. In just that degree of purity of thought, of association, of action, to which we attain in our daily lives, will the sacred obligations to which every member of our profession is bound, most certainly be fulfilled. In just that degree also will our mission in life, through professional practice and personal example, be most worthily and honorably accomplished.

I had intended to communicate to your readers some exceedingly interesting gynæcological cases which were treated by me satisfactorily, by new methods, in my service at the Mount Sinai Hospital, outdoor department, recently ; but the extract made from Prof. Otis's excellent lecture is, I think, already long enough to fill the pages allotted to my correspondence in your interesting Journal. I, therefore, defer that communication, with other matters, to my next.

Truly and respectfully yours,

RUDOLF TAUSZKY, M.D.

REVIEWS.

A Clinical History of the Medical and Surgical Diseases of Women. By ROBERT BARNES, M.D., London. Second American from the second and revised London edition. Philadelphia: Henry C. Lea, Publisher. 1878.

"Barnes on Diseases of Women" is by this time quite as much of a household book as "Barnes on the New Testament," and has become so well and favorably known that it is scarcely necessary to do more than to mention that a second edition has been published. It has, however, undergone a few changes, mainly in form. The fifty-two chapters of the first edition are rearranged in twenty-nine chapters, and the space thus gained is filled out by additional matter concerning the relation of vesical and rectal disorders to sexual disease. The mania for using new and unusual words, with which the author is badly smitten, still prevails. Dyspareunia, dysootocia, dyschezia, oophoria, may all be ingenious, but they are neither English, accurate, or necessary. A hen may have dysootocia, but human ovulation is somewhat different. Concerning oophoria, we read, on page 238, as follows: "Tracing the nervous phenomena, usually summed up as 'hysteria,' to ovarian influences, Negrier proposes to substitute the word 'ovarie' for 'hysteria.' Agreeing in great measure with Negrier's views, I see practical objection to the particular word he has selected. I therefore propose the word 'oophoria,' which is more correct, etymologically, and convenient in relation to oophoritis or inflammation of the ovary." One scarcely knows which predominates in this proposition, impudence or defective understanding. In spite of the well-known fact that the uterus is not a necessary agent in the production of hysteria, this name is retained from long usage and a perfect understanding of its meaning—although, strictly interpreted, it involves an incorrect theory. But since men may have hysteria, any designation implying ovarian origin is equally inapplicable, and "ovarie" is therefore an unnecessary infliction. How the author expected to better it by simply turning it into Greek, is not apparent to the average mind. It is quite probable that the object of the change was widely different. Some naturalists have a similar aptness for naming new species of plants or insects, in order to secure the placing of their names in conspicuous places. Judicious advertising is the main-spring of successful business.

The ovulation theory of menstruation was very dogmatically taught in the first edition, and is still adhered to, but the arguments against it are now stated with tolerable fairness. Perhaps in the next edition further progress may be noted, though it is hard to teach an old dog new tricks. The recent visit of the author to this country has evidently borne good fruit in making him better acquainted with American gynecologists and their writings, as many new citations bear testimony. There is still a tendency, ineradicable from the Briton, to believe, or at least assert, that everything good has had its origin and principal development in England. Therefore, if anything has been tried and failed in that region, no notice need be taken of any similar efforts in less-favored countries. Thus in the early treatment of extra-uterine pregnancy by galvanism, no notice is taken of the only three cases in which it has been adequately tried and in all of which it succeeded. These are reported in the *American Journal of Obstetrics*, of May, 1872, and in this *Journal*, October, 1877; but Braxton Hicks has also tried it once, and failed for want of perseverance, hence the noble Briton concludes that no one else could succeed. Perhaps the inestimable benefit conferred upon us by substituting the term "ectopic gestation" for extra-uterine pregnancy, consoles the author for any defects in its study. The latter term certainly gives as definite an idea as could be desired, and "out of place" gestation faintly suggests the answer of the girl who, upon being asked where she had been vaccinated, replied, with emotion, "Twice in the kitchen and once in the stable." A few more word-coiners such as Dr. Barnes, would derange the language of medical science past recognition. The erudition of the author is beyond controversy, but in the matter of Nengebauer's speculum he appears to have been preoccupied in converting it into "my crescent speculum." This very convenient instrument, stamped with the approval of the highest modern authority, appears also to be one of the most ancient. In the Oxford (1778) edition of *Albucasis* (Tom. II. sec. 77), that writer very evidently describes the same instrument: "Illi sunt duae cochleæ," etc.; and its use is set forth in Tom. I, sec. 74: "Oportet autem ut ponatur cochlea quae in instrumento cutrit (currit?) ad latus superius, et cochleam revolvat minister donec collum uteri aperiatur." The improvement made by Dr. Barnes dispenses with the need of an assistant, but it is well in our proudest moments to remember from what we spring.

Time and modesty forbid the discussion of any of the moot points in gynecology, which are throughout the work decided with confidence and vigor. Division of the os externum for dysmenorrhœa, and almost exclusive denunciation of division of the os internum, are among these. Some skepticism can hardly be avoided in looking at figure 69, where the action

of Küchenmeister's scissors in dividing an os already of sufficient size is displayed. In the chapter on inversion of the uterus we do not find any written evidence of the remarks alleged to have been made by the author concerning "the brutality of American surgeons," at a meeting of the London Obstetrical Society, but it is evident that he does not appreciate fully the value of Prof. White's repositor, even if he has ceased to denounce it. After all, in spite of insular eccentricities, very excusable vanity and inexcusable assaults upon the language, there is no book upon the same subjects which can be compared with it. It is not marked with the same originality and genius as his work on "Obstetric Operations," but it is a monument of actual knowledge, research, and hard work. It is as complete as it is possible to make such a book in these active times, when improvement follows improvement so rapidly, and in no department more than gynæcology. No practitioner, whether a specialist or not, can afford to be without it. Even if he eschews this class of practice altogether, he can learn here, as no where else so well, the remoter symptoms of uterine disease, so often overlooked or misinterpreted by the general practitioner, and can thereby prevent many inaccurate diagnoses. The very completeness of the book, conjoined with the prevalence of ill-considered words and terms, will prevent it from being a useful text-book for students. This is scarcely to be regretted, since we already have Thomas on "Diseases of Women," which, in the latter capacity, leaves nothing to be desired. If one could combine the simplicity, clearness, and orderly arrangement of Thomas with the encyclopædic richness of Barnes, we might have a single book, which, with due revision, would need no successor. It is, no doubt, better as it is. The youth goes from the academy to the college, from the college to the technical school; and in like manner the beginner in medicine may lay the foundation of his knowledge in this department in the study of Thomas, and afterward find a daily companion in the truly great work which we have here so briefly noticed.

H. G. L.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M.D., F. R. C. P., etc., with notes and additions by ROBERT P. HARRIS, M.D. Second American, from the Second and Revised London Edition. Philadelphia: Henry C. Lea, 1878.

Whatever one may have thought of the necessity or merits of this work on its first appearance, its rapid sale and the prompt demand for a second edition suggests an inquiry into its claims upon our attention. Success is the world's criterion of merit, and not unfairly as a general rule. Worth of some description is essential to continued prosperity, and even

to momentary applause in these busy times. Excellence may, however, be relative. A work may be poor as compared with possible performance, and yet so much better than actually existing efforts as to be admirable. A standard of comparison is, therefore, the first requisite in judging any work. It is not too much to say that all the wisdom of the ancients, and all the really valuable improvements of the Renaissance Era of midwifery were summed up in the matchless work of Cazeaux. One need only compare it with the best of its predecessors to find that it was the first scientific and thoroughly systematic treatise published. After the death of its author it was kept in the front rank by Tarnier, a worthy successor; so that any excuse for a new work by another, based on the supposition that this one would deteriorate by age, could not be admissible. To any new comer into this field it is allowable to propound these questions: Do you bring anything new and valuable, or do you state old facts in a better and more accessible way? Under the latter we would include improvements in method and style of presentation, increased brevity, and, therefore, cheapness, the last being no mean consideration. In proportion to the fullness of the affirmative answer rests the right of a new book to supplement or supplant the standard. With respect to novelty and originality, we confess to an inability to discover, either in Dr. Playfair's work, or any other of the moderns, any noticeable advance upon the late editions of Cazeaux. Obstetric science does not seem to have developed in proportion to the other departments of medicine, though perhaps for that very reason, what is known has been more widely and thoroughly diffused among the rank and file of the profession. Some things in our author are practically new, as, for instance, the discussion of double monsters. The term "puerperal fever" is also happily dropped from our nomenclature, and several minor points are developed in a novel way. We will find the real excellence of the book in its conciseness and comparatively small compass. The very completeness of Cazeaux involves the introduction of much cumbersome detail, and the obscuring the main points which the student desires to know by many minutiae which are unimportant. Also, whether it be the fault of the author or his translator, the style is extremely prolix. In this respect, all subsequent writers except Hodge have made improvements, and none more so than Playfair. It is neatly written, brief, and clear, and altogether a good book for the student of midwifery. That it is any better than Leishmann or Schroeder, for instance, does not readily appear; but its rapid success indicates that the profession at large place a higher value upon it, and as they are, after all, the best judges of its clearness and teaching capacity, the verdict may be considered as final. Such being the case, it is hardly worth while to point out any blemishes in the

book. But in the hope that the author is capable of taking advice, we would suggest that in the next edition the discovery and promulgation of bi-manual version should be credited to Dr. M. B. Wright. In this it is "unquestionably" assigned to Braxton Hicks, which is, under the circumstances, neither a mistake, nor an inadvertency, but a willful perversion of the truth. The older text-books used to describe the blastodermic membrane of the ovum as consisting of two layers, which has usually been quite enough for students to learn and remember. Here we are saddled with an epiblast, hypoblast, and mesoblast, which is a blasted deal too much refinement. The rupture of the membranes is judiciously recommended at the completion of the first stage, but the advice to effect the puncture with a hairpin, as a general thing, is both unnecessary and rash. The best part of the book is that contained in the notes of the editor, Dr. Harris. As a rule, the reprinting of English books in this country is simply a thieving swindle, but this appears to have been published by consent, as it is dedicated to Prof. Thomas, and the selection of an editor has certainly been very fortunate. The editorial additions are almost always pertinent and instructive, and contain much of the really original material of the book. To judge from fragments, we would be inclined to think that Dr. Harris could have done better by writing the whole book, but as he has not, we may be thankful for small favors. To conclude, the work is a very slight, if any, advance upon its predecessors in new knowledge, but it is certainly a good text-book, and worthy of recommendation in our schools.

H. G. L.

Hand-book of Ophthalmology. By PROF. C. SCHWEIGGER, of the University of Berlin. Translated from the third German Edition, by Porter Farley, M.D., Rochester, New York. Philadelphia: J. B. Lippincott & Co., 1878.

The fact that Prof Schweigger's book has already gone through three editions in German, is sufficient evidence of its popularity. To those who cultivate the specialty of ophthalmology, these several German editions have been well known. But to those who cannot read the book in the original, the English translation will be very welcome.

The division of the work in three parts strikes us as a very convenient one. Part first treats of refraction, accommodation, and mobility of the eye, and occupies about one-third of the volume. In the consideration of the methods of determining the refraction of the eye, the importance of the ophthalmoscope is not as fully considered as the subject deserves. Only two pages are devoted to the subject, and no mention is made of the modifications of the instrument for this special purpose. Neither Loring's nor Knapp's instruments are even mentioned. This, in our judgment, is

a grave omission, for, while we would not lay too much stress upon this method of determining refractive errors, it is sometimes, as in children and certain pathological conditions, the only way in which it can be accurately done. A very excellent chapter is the one on affections of the ocular muscles. In it the movements of the eyes and the laws which govern diplopia are taught with great clearness and simplicity. The rules for the detection, of which of the ocular muscles are concerned in the various forms of diplopia, are given in such a manner that they can be easily memorized. This is important, because without such knowledge it is impossible to make a correct diagnosis.

The chapter upon strabismus, too, is a good one. But we find ourselves obliged to dissent from the method of operating for strabismus which the author recommends. The following is the method in which he operates: "Exactly over the tendon of the muscle, or a little in front of it, the conjunctiva is seized with a pair of forceps, lifted into a fold, and an incision made. This incision may be made either parallel with the direction of the muscle—the advantage in that method being that the wound gaps less after the operation—or it may be parallel to the line of insertion of the muscle, in which case the latter is somewhat better exposed. The conjunctiva is now loosened toward the periphery with the scissors, in case of strabismus convergens, as far as the caruncle. Then the muscle is grasped by the forceps close behind its insertion; when possible, the whole breadth of the muscle should be seized. The insertion of the muscle is first pierced in the middle with scissors, one blade being thrust between the muscle and the sclera, first to one side and then to the other, and the tendon is divided close to the sclerotic."

We have inserted so much of this description, because we think it exactly describes the way in which a squint operation should not be performed. The method of operating recommended by Von Graefe, which Schweigger condemns, in which the tendon is sub-conjunctivally divided, we believe to be the best possible way in which it can be accomplished, and far more likely to give good results than the other. Schweigger says that if it can be foreseen, with certainty, that at least two operations will be required, both eyes may be operated on at the same time, so as to economize time. This advice is certainly bad, and, if indiscriminately followed out, would be followed by excessive effect. We think the rule only to operate upon the one at a sitting ought never to be deviated from.

Part second is upon diseases of the orbit, lachrymal apparatus, lids, conjunctiva, cornea, sclera, iris, lens, and vitreous body.

The first chapter in this part on affections of the orbit, although very short, is quite an epitome of knowledge on the subject.

The chapter upon diseases of the lachrymal apparatus contains but one omission which we have noticed, and that is, that no mention is made of Samelsohn's method of operating upon fistula of the lachrymal sac, by galvano-cautery. The writer has practiced it in two such cases with complete success, after all other endeavors had failed. Prof. S. thinks that imperable strictures of the duct—such as cannot be passed by with patience and care—are extremely rare. Hence, he concludes that the operation for obliteration is very seldom required, but is to be executed when the stricture cannot be passed. He also lays much importance upon the treatment of both the mucous membrane of the conjunctiva and lachrymal sac.

The chapter on conjunctival diseases, especially that part of it which relates to treatment, are excellent. The use of strong solutions and caustics are condemned as injurious, and it is laid down as an axiom that no solution of this kind strong enough to produce an eschar should ever be employed. Then there is some very good advice against employing caustics at all in the earlier stages of acute inflammations. But, while agreeing with the author in the course he advises in treating conjunctival inflammation, we can not consent to the view he holds about the treatment of pterygia.

He says: "If the pupillary region of the cornea be covered by the pterygium, the operation of iredeotomy affords a good prospect of improving vision." But we should think it would be far better to remove the pterygium, either by simply excising it and drawing the conjunctiva over the wound, or by the plan of transplantation, as recommended by Arlt or Knapp.

In speaking of iritis it is said that the typical form and also the most frequent is that which may be called "idopathic iritis." This statement is at variance with the more generally entertained view that syphilis is the most common cause of iritis. Graefe places the percentage due to this cause as high as sixty per cent.

It is more accurately stated by Prof. Schweigger than is generally done in text books, that the tumors which appear on the iris in syphilitic iritis are gummy tumors. Formerly they were called condylomata, but Virchow decided from their clinical history that they ought to be regarded as gummy tumors. A case examined by Colberg fully confirmed this view. It is said that these tumors very seldom occur without syphilis. This statement, we think, should have been made without any reservation—for us a gumma is positive evidence of a syphilitic origin.

Speaking of sympathetic inflammation, Mackenzie is credited with having mentioned one case in which the eye first affected still retained some power of vision, while the one affected by sympathetic disease was ab-

solutely lost. The writer also reported such a case in the Archives of Ophthalmology and Otology, Vol. 1, No. 2. Since occurrences of this kind are so very rare, this might have been referred to as well. But, we may say here, that Prof. Schweigger hardly refers at all to any American contributions. This ignoring of any thing which originates in this country, by German authors is, however, but too common.

Schweigger is a partisan of Graefe's method of extracting cataract, and his description of the operation is clear, concise, and excellent. The difficulties of the operation and the various forms of reaction which ensue in the healing process, evince plainly enough that he has given much thought to the method, and had no little personal experience in its performance. The last part of the work is devoted to the consideration of the normal fundus, diseases of the choroid, of the retina, and of the optic nerve; glaucoma and amblyopia. If we were to offer any criticism upon this part of the book, it would only be to say that there is not enough of it. What there is, is certainly very good, indeed. Schweigger has already written an excellent monograph upon the use of the ophthalmoscope, which is far more complete and satisfactory than this part of his larger book. He has included in this part of his work the results of some anatomical examinations, especially of retinitis pigmentosa, and Bright's retinitis, which are classical in ophthalmological literature.

We do not think Prof. Schweigger's book so well adapted for a text book as some others. He presupposes some knowledge of the subject on the part of the reader, such as is not usually possessed by the student and general practitioner. Again, there are too few illustrations, and no detailed description of the anatomy of the eye, which are essential in a text book. But as a book of reference to those who are already somewhat advanced in the study of the subject, and for ophthalmologists, it must be considered a most valuable addition to literature. It is the product of a thoughtful mind, and shows a thorough mastery of the whole speciality. The style, unlike that of so many German writers, is excellent, clear, concise, and simple.

It would be unjust to omit saying a word in favor of Dr. Porter's translation, which is unusually well done. We have only noticed a few awkward expressions, but they are so infrequent that it would be hypercriticism to point them out in a book which is so generally good. The proof was revised by Dr. Rider, of Rochester, who is most favorably known to the profession as an accomplished ophthalmologist.

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ORIGINAL COMMUNICATIONS.

ART. I.—*Report of the examination of the body of John W. Brock.* By Z. C. McELROY, M.D., and J. G. F. HOLSTON, M.D., Zanesville, Ohio.

The body of John W. Brock was discovered about dark, between eight and nine o'clock, on the evening of June 9, 1876, lying on the left side, with his arm on his thigh. A shot-gun which he carried away from his house with him in the morning, was lying about three feet from his head, the left barrel empty, and pointing towards his left eye. A Justice of the Peace for the township held an inquest, as acting coroner, on his body, about midnight. Dr. Smaill made a sort of post mortem, by passing two fingers into an opening in the scalp covering the occipital bone. The left eye was gone. The verdict of the jury was suicide, or accidental death, I don't remember which.

The verdict did not remain long unquestioned in the neighborhood. It soon became the general belief, founded on various facts and incidents, that Brock had been murdered, and suspicion fell on a man by the name of Jefferson Moorehead, who had been intimate with Brock and his family, and believed by the neighbors to have been altogether too intimate with Brock's wife.

The case was brought before the grand jury at the March term of the Court of Common Pleas for Muskingum county, 1877, but no indictment was found against Moorehead. The mother of Brock never believed that her son had committed suicide. Her faith that her son had been murdered, never faltered. She carefully collected all the facts bearing on the case from the neighbors of her son, and became fully convinced that Moorehead had killed him. Her circumstances

in life forbade the idea of employing counsel to investigate the matter, but relatives and friends furnished the means, with which competent legal counsel was secured, to make a preliminary investigation by having the body of her son exhumed and re-examined, though it had been buried twenty months. Upon her affidavit, proceedings were commenced against Moorehead, and he was arrested by the Sheriff, in Noble county, and lodged in the Muskingum county jail. Counsel for the state then ordered a post mortem examination to be made, which was done. The report of it, made to the Acting Coroner, is here appended.

The trial commenced May 23, 1878. It was shown in evidence that Brock left his residence soon after noon of the day of his death, with a shot-gun, and started in the direction of a secluded piece of woods, between cultivated fields, in which his body was found about sunset, same day. Jefferson Moorehead lived in the village of Norwich, four miles east of the residence of Brock. The day before Brock's death, he borrowed from a neighbor a rifle, and left home early next forenoon, with the gun, and started westward, in the direction of Brock's residence. The neighbor from whom he obtained the gun, asked him where he was going. He said, in reply, that he thought of going to Brock's. His neighbor remarked to him that if what he had heard was true, he had better keep away from Brock's. Moorehead replied he could shoot as well as Brock. In going from home that day, Moorehead did not follow the road, but went through the fields, and in a very roundabout way. Witnesses testified to seeing him on each farm through which he passed. The last time he was seen, was one hundred and twenty-eight rods, actual measurement, from the spot where Brock's body was found.

A young man who was at work in a corn-field, and was the last witness who saw Moorehead that day—at the edge of which he saw Moorehead—testified that about two o'clock, or a little later, he heard the sharp sound of a rifle coming from the direction of the woods where Brock's body was found, and in from two to five minutes later, the dull thud of a shot-gun, apparently discharged near the ground. Al-

most immediately, he heard dogs barking and howling from the same direction. Two other witnesses, at the residence of the owner of the farm to which the corn-field belonged, where the young man was at work, heard the shots, and identified them as those of a rifle first, and shot-gun last.

Moorehead was not seen by any witness again that day until he arrived at his residence in Norwich, late in the afternoon, when it was testified to that he was "sweating profusely, very tired, and excited."

The trial extended through ten days. The jury was out of court about thirty hours, the delay being that a portion of them were in favor of a verdict of murder in the first degree; but their verdict was murder in the second degree.

Counsel for prisoner submitted to the court a motion for a new trial, upon which arguments were heard, and overruled; and on the tenth of June, 1878, the Judge sentenced the prisoner to the penitentiary for life. Counsel for prisoner, not yet satisfied, asked for suspension of execution of sentence until an appeal from the decision of the court denying a new trial, could be heard in the Supreme Court of the State, which was granted by the court. The appeal was argued in the Supreme Court early in November, 1878, and the judgment of the Common Pleas sustained. The prisoner was conveyed to the Penitentiary early in December. No effort has been made to recapitulate the testimony, but it will be understood that it was strictly circumstantial; but the circumstances were too strong to leave a reasonable doubt of the guilt of the prisoner. No case could have been made against the prisoner, but for the facts brought to light by the post mortem examination.

It may be well to state that a round hole, about the size of the bullet, and apparently burned, passed through the band of Brock's hat, as it was found near him; and that bullets cast from the moulds of the rifle carried by Moorehead, weighed from 46 to 48½ grains. The flattened piece of lead found in the debris of his head, weighed 44 grains. That Brock had two dogs with him when he left home, and when his body was found, one of them was found lying close to him, and the other walking restlessly about near his body.

REPORT OF THE POST MORTEM EXAMINATION OF THE BODY OF JOHN W. BROCK, BY DRS. MCELROY AND HOLSTON.

To FENTON BAGLEY, *Justice of the Peace and Acting Coroner* :

SIR:—Copies of the following writ were placed in our hands on the morning of the 5th day of February, 1878:

The State of Ohio, Muskingum county, ss :

To Z. C. MCELROY, M.D., and J. G. F. HOLSTON, M.D.:—You are hereby commanded to appear at the village of Sonora, in the county of Muskingum and State of Ohio, on the 5th day of February, 1878, at 8 o'clock A.M., to make a post mortem examination of the body of John W. Brock, deceased, late of said county of Muskingum, and State of Ohio. And this writ shall be your authority for so doing. (Signed,) FENTON BAGLEY,

Justice of the Peace of said county, and Acting Coroner.

We were further instructed in regard to the purposes and objects of the examination by the following :

THE STATE OF OHIO vs. JEFFERSON MOOREHEAD. *Before Fenton Bagley, Justice of the Peace of Muskingum county and Acting Coroner.*

To DRS. MCELROY AND HOLSTON:—You will proceed with Feuton Bagley, Acting Coroner, to the cemetery attached to the Lutheran Church, near Sonora, and have the body of John W. Brock, who was buried about June, 1876, dis-interred, and proceed to make a post mortem examination.

First—Generally examine the head; describe the fractures, if any, and any other particular condition. If fractured, from which direction the force came, and whether by bullet, or shot, or both; and particularly from which way the shot came, as well as the bullet, or bullets, if there is any wound caused or probably caused by bullet or shot.

Second—Examine the contents of the cranium carefully for shot or bullet, and bring them with you, if any are found.

Lastly, make a careful examination—very thorough—and make a report to the Acting Coroner, and prepare yourself for examination on the witness stand, in case you are required.

February 4, 1878.

A. W. TRAIN, *Attorney for State.*

In obedience to the command of the Acting Coroner, Bagley, and in company with him, the undersigned proceeded by railway to Sonora, where they were provided with transportation to St. Paul's Lutheran Church Cemetery, accompanied by Dr. W. W. Smail, Charles Edwards, and David Dunn, the two latter to open the grave. Arriving at the cemetery, they called on a family residing near the cemetery to identify the precise spot at which the body of John W. Brock had been interred. This service was rendered by Miss Alice Huffman, daughter of Hiram Huffman. The Acting Coroner placed writs in the hands of Messrs. Edwards and Dunn, authorizing them to open the grave, which they proceeded to do. When the burial case was elevated and placed on the surface of the ground, the lid was removed, when the Acting Cor-

oner requested Drs. Smaill and Jennings, citizens of Sonora, and well acquainted with John W. Brock during his lifetime, to examine and identify the body, if they could. Examining the clothing, buttons, etc., they were positively satisfied that the body before them was that of John W. Brock.

Dr. McElroy thereupon commenced removing the cloth which covered his face, but it was very tender, and came away in pieces. When it was removed, and the head touched, it fell apart. A further examination disclosed that the soft parts connecting the head with the bones of the neck and body, were much disorganized, and that the bones of the head were loose from those forming the neck. Thereupon we determined to remove the head entire, so far as could be done, and take it to Zanesville for examination. Everything was placed on a cloth napkin, and we returned to Sonora. Having time before our return to Zanesville, we determined to make a preliminary examination in Sonora, Dr. W. W. Smaill kindly inviting us to his residence for the purpose. Everything brought away from the cemetery was placed on a fine seive, and the larger fragments of bone washed and placed on a clean napkin. Then the soft and not wholly decomposed brain matter was carefully passed through the fingers, and every hard substance detected placed in a glass bottle. In this condition they were brought to Zanesville soon after mid-day. A more careful examination during the afternoon, and since, disclosed that the skull was broken up into many pieces, many of them quite small. A piece of flattened lead was found, supposed to have been a bullet, which, in connection with several small fragments, supposed to have been originally part of it, when clean, weighs forty-four grains.

Some hairs were adherent to it after several washings, once in ammonia water. Besides this piece of lead, shot, varying in size, numbering forty, were found, which weigh one hundred and ten grains, or about one-fourth of an ounce. Photographic representations of the concave and convex surfaces of this piece of lead are attached to this report.*

We have spent much time in endeavoring to reconstruct the cranium from the fragments, and have succeeded so far

* See Figs. 2 and 3.

as to get a fairly complete outline of the bony frame-work of the head. Photographic representations of the back, front, and side views are hereunto appended.*

As directed by the attorney for the State, we describe the fractures as follows, most of which may be traced in the several photographic plates accompanying this report. Care must be taken not to confound the wires and holes drilled in the fragments of bones, necessarily made to hold them in shape, with the lines of fracture :

Looking at the front, and referring to the first photographic plate, we find the nasal process of left superior maxillary bone gone ; all the bones of the left orbit, except a small portion of the extreme left, gone ; external angular process, frontal bone, left side broken off, but found and replaced ; fracture of frontal bone, right side, extending from, and including external angular process, backwards to the parietal, through parietal one-half its extent, inclining sharply upwards, then downwards, to a point below the parietal protuberance ; fracture internal angular process, frontal bone, right side, extending into orbital plate, ending at supra-orbital notch ; all the bones forming inner orbit of eye, right side, gone ; fracture of frontal bone, left side, commencing at supra-orbital notch, extending upwards and inwards, then backwards and outwards to a point three-quarters of an inch to the left of suture, connecting parietal bones, right and left side ; left temporal bone broken into three pieces, and detached from all connections ; mastoid process, one ; petrous portion, two ; squamous portion, three ; sagittal suture entirely opened ; left zygomatic arch fractured across, near center ; left parietal bone fractured, extending from petrous portion of temporal bone upwards, by line, to sagittal suture, dividing it into two nearly equal parts.

In the occipital bone, half an inch above the superior semi-circular ridge, and one-eighth of an inch to the left of the median line, there is a round perforation, or hole, scant half an inch in diameter, complete in outline except one-eighth of an inch, or one-twelfth of an inch of the entire outline, to

*Two front views, and a view of a perfect skull are not shown by engravings, as unnecessary.

the left, above the center of the opening, caused by loss of the small piece, or pieces of bone necessary to complete it. From this opening lines of fracture extend in ray-like form in all directions; two upwards; two transverse, and one downwards. Lambdoidal suture entirely opened, except right mastoid portion. These lines of fracture separate the occipital bone into nine or more pieces.

Three photographic views of the skull, as we have succeeded in reconstructing it, are herewith attached. The first showing the round opening in the back part of the head,* the second showing the condition of the front, or face. The round opening in the back part of the head is plainly visible through the left eye. It shows, also, the absence of the bones forming the nose, as well as the orbits, or sockets, of both eyes.

The third exhibits the condition of the left side of the skull, with lines of fracture of the temporal, frontal, and parietal bones.

Appended below this third view, is a smaller view of a perfect skull, without the lower jaw. It will be observed that there is a perfect bony socket for the eye.

Appended to the first view are photographic representations of the flattened piece of lead found in the debris of the brain, which we have no doubt is the bullet which made the round opening in the back part of the head.† One view represents the convex surface, the other the concave; both show the shot-hole through one of the edges. By the aid of a moderate magnifying glass, it can be examined very satisfactorily. The views represent the flattened lead of exactly the natural size.

The photographic plates of the skull of Mr. John W. Brock are about half life-size.

We are directed by the attorney for the State, A. W. Train, in his instructions in reference to the post mortem examination of Mr. Brock's head, to ascertain from which direction the force came, resulting in the fractures of the bones of his head. We have no hesitation in declaring that the condition of the bones forming the round hole in the back of the head,

* This is shown in Plate, Fig. 1. † See Figs. 2 and 3.

are of such character as to demonstrate that the force came from behind Mr. Brock, and in a direct line through his head; and further, that such an opening could not be made in any other way than by a bullet, and was fired at quite short range. The condition of the flattened lead shows, again, by the hole in it, that the bullet, in point of time, was in Mr. Brock's head before the shot, found in the debris of the brain.

It seems to us, too, very evident that Mr. Brock was shot while standing on his feet, by a person occupying a little lower ground, and probably in a crouching position, so as to give the bullet a direction slightly upward, to strike the inside surface of the frontal bone, which it probably did at a point opposite to the fracture shown in the photograph. This wound would cause instant death. The extensive destruction of the orbits of both eyes, but particularly of the left, makes it tolerably certain that a charge of shot was discharged into the cranium through the left eye, and after Mr. Brock's death from the bullet wound received from behind.

We were unable to locate either the flattened bullet or shot in the cranium, owing to the state of decomposition in which we found the brain matter proper. But that the charge of shot was fired into Mr. Brock's head from the front, and after his death, is shown by one shot perforating a thin edge of the flattened bullet, while another made a deep indentation, but did not get quite through. The burr made by a bullet, punch, or in any other way, is always in the direction of the force which makes the opening. This burr is on the concave surface of the lead, showing that the bullet and shot came from exactly opposite directions.

The condition of the bones of the head, and the flattened bullet or piece of lead, and the shot found in the debris of the brain, demonstrate to a reasonable certainty that the order of events culminating in Mr. John W. Brock's death, were about as follows: The bullet was discharged from a rifle behind him, though not far away; that the bullet caused instant death; that the charge of shot was forced into the brain from a gun discharged in front of him, and probably through the left eye, some time after his death.

The results of our examination of the head of Mr. Brock, and so much of the brain matter as had survived decomposition, we may sum up as follows:

First. That Mr. John W. Brock came to his death by a gun-shot wound of the head, entering from the rear.

Second. That the bullet was discharged from a rifle, by a person behind him, and in a direct line through the head from rear to front, probably in a crouching position.

Third. That the bullet wound caused instant death.

Fourth. That the charge of shot was discharged into his head after his death, from the front, and probably through the left eye.

Having accomplished all that we were commanded to do, both by Acting Coroner, and attorney for State, and by our examination determined the probable mode and sequence of events culminating in Mr. John W. Brock's death, we beg, respectfully, to submit this, our report.

Z. C. McELROY, M.D.,

J. G. F. HOLSTON, M.D.

To FENTON BAGLEY, *Justice of the Peace in and for the county of Muskingum, and State of Ohio, and Acting Coroner.*

ZANESVILLE, OHIO, February 13, 1878.

ART. II.—*Observations on the treatment of Blepharospasm.* By HENRY G. CORNWELL, M.D., Youngstown, Ohio.

"They unto whom we shall appear tedious are in no wise injured by us, because it is in their own hands to spare that labor which they are not willing to endure."—HOOKER.

It is desired in this brief paper to bring to notice a few points of practical importance in the management of an obstinate and distressing affection of the eye-lids, viz., *blepharospasm*—a tonic spasm of the palpebral sphincter muscle, dependent upon an excitation of the sensory filaments of the *tri-facial nerves* distributed to the globe and conjunctiva, having its origin in many of the superficial affections of the cornea and conjunctival membrane. To the surgeon, the addition of such a condition to phlyctenular, or other irritative inflammatory diseases of these membranes, e. g., keratitis, or conjunctivitis; central or marginal ulcers of the cornea, granular lids, etc., becomes exceedingly troublesome, and

interferes with the proper application of surgical means for the relief of the co-existing affection.

This disease can hardly be considered an affection peculiar to childhood, and youth, although it is frequently found associated with those diseases of the eye-ball and lids which are largely met with at such periods. It is not rarely a sequel of some mechanical irritation, as from the presence of foreign bodies in the conjunctival sac, etc. The hyper-sensitive condition of the terminal twigs of the fifth pair of nerves ramifying in the cornea and conjunctiva thus induced, brings about a strong spasm of the orbicular muscle, due to a reflex neurosis dependent upon irritation when the eye is exposed to the stimulating influence of the air, or bright light. An instantaneous contraction of the orbicularis follows the irritation consequent upon such an exposure. The lids are tightly locked together, perhaps for weeks; the patient during this time being required, owing to the marked intolerance of light with which it is accompanied, to have the eyes kept closely bandaged, or remain in a dark or shaded room. The lids can only be made to separate for a second, an act which excites severe pain; the cornea is drawn up under the upper lid, and the eye instantly fills with scalding tears. This can only be accomplished after a violent effort; a deep inspiration is taken, and the eyes carefully guarded from the light by the open hands—instantaneous contraction follows.

The diseases with which it is associated vary exceedingly in importance. Small corneal ulcers; phlyctenular conjunctivitis, or keratitis, with but slight circum-corneal injection, may have co-existing with it, this distressing orbicular spasm and photophobia, the later condition being dependent upon a developed hyperæsthetic condition of the retina.

This affection is usually more prominent in persons of impaired nutrition. Children, among whom, in city life, especially, the hygienic influence of air and baths are apt to be neglected. The little patient is brought before the surgeon, the head bent on the chest, the eyes closely covered with a heavy bandage or vail. In most instances, this spasmodic condition is associated with an impaired condition of the

general health, and disordered digestion. This form is designated as *scrofular blepharospasm* (Schweigger). Children of from six to ten years of age, living in unrestricted luxury on pastry, pickles, preserves, tea, and coffee, until with pallid and cachectic appearance, they are brought to our notice through the influence of a corneal or conjunctival disease, and a vexatious blepharospasm. An examination usually proves unsatisfactory, as the patient is unable to open the eyes without being subjected to the narcotic influence of ether or chloroform. The parents report that the child is unable, owing to the severe pain which it occasions, to be exposed to the light; that it seeks darkened corners, or hides its face in the bed-clothing. Often about the edges of the lids (the lower more particularly,) the nostrils and lips, are found herpetic scabs, indicative of mal-nutrition—a condition popularly known as “*scrofula*.”

This spasmodic affection is also brought about in exceptional cases through irritation of the recurrent branches of the fifth pair, due to carious teeth, tumors, etc. In the greater number of cases the condition is largely dependent upon hysteria, the spasm being out of all proportion to the local disease from which it had its origin. In this it closely resembles vaginismus, and the same can frequently be said of it, that “in some cases no lesion of surface, no inflammation can be discovered; and we are driven to the conclusion that the spasmodic irritability is due to hysteria, or simple hyperæsthesia, or to emotional influences.”—BARNES.

The therapeutics of this affection are to be directed towards the removal of the cause—the co-existing disease—and the treatment of the spasm itself, which has now become, although only symptomatic of the former condition, the more important of the two. Among the numerous plans of treatment proposed, those in frequent use are: dashing cold water into the face, or plunging the head into a cold bath; soothing embrocations to the external surface of the lids; the internal administration of conium or belladonna; counter-irritation by means of cantharidial collodion to temples, forehead, or mastoid process; sub-cutaneous injection of some

of the salts of morphia in the region of the nerve stems, (Graefe); sub-cutaneous division of the supra-orbital nerve trunk, (Romberg); application of the electric current, (Remak); canthoplasty, (Agnew); penciling the eruptions about the edges of the lids with the compound stick of nitrate of silver and nitrate of potash, (Noyes). Idiopathic blepharospasm (Arlt) is chiefly due to hysteria, and requires that plan of treatment to be followed suitable for such affections.

It is more particularly the purpose of this paper to bring to notice a plan of treatment which I have introduced in the management of this affection, which has superseded, in my hands, the effect of any other I have tried, and has been productive of the same good results in the practice of surgeons in ophthalmic practice, to whom I have suggested it.* For this orbicular spasm, I employ forcible stretching of the *sphincter palpebrarum*. My attention was called to the use of such a method of treatment by the success of forcible stretching of sphincter muscles in vaginismus and spasmodic affections of the anus. During my term of service as resident surgeon, Brooklyn Eye and Ear Hospital, induced by these points, it became my practice to stretch apart to their widest extent, with the thumbs on their external surface, the lids of all patients, when this condition was present. The eyes of all resident patients, among whom irritations of the globe from roughened conditions of the mucus lining of the lids had brought about this spasm, were, in addition to the usual applications made, several times a day at my hands subjected to this treatment. More recently I have, after full anæsthesia from chloroform or ether, dilated the orbicularis to its full extent, fixing it in this position by means of a speculum for some moments; when much irritation of the cornea was present, introducing a few drops of *atropinized castor oil*, when the patient was gradually allowed to recover from the anæsthesia, and the instrument *then* removed.

* Vide observation of Dr. D. B. Smith, on a verbal communication made by the author of this method of treatment, in a paper on "The Progress of Ophthalmology," read before the Ohio State Medical Society, in session at Columbus, Ohio, 1878.

The favorable effect of this method of treatment is perhaps due to the combined influence of the forcible and continued stretching, thus breaking up the spasmodic tendency, and to the *hyper-sensation* of the ocular branches of the tri-facial nerves becoming obtunded by exposure to the air.

Whatever the local treatment, attention to the general health of the patient is of prime importance. *Scrofula* in children too often means disordered digestion from unrestricted liberties at the table. Tea and coffee should form no part of children's diet. The so-called "scrofulous" child will, if inquiry is made, be found to be one who, through the indulgence of its parents, eats pastry, pickles, preserves; drinks tea and coffee, to the exclusion of, for them, more easily digested diet. Regular baths, plenty of sun-light, and an abundance of "*God's pure oxygen*" is the modern and humane hygienic treatment of youth.

"I will tell you, *honestly*, what I think is the whole cause of the complicated maladies of the human form: it is their *gormandizing*, and *stuffing*, and *stimulating* the digestive organs to excess, thereby creating irritation. The *state* of their mind is another grand cause—the fidgetting themselves about that which can not be helped; passions of all kinds; malignant passions and worldly cares pressing on the mind, disturb the central action, and do a great deal of harm."—DR. ABERNETHY.

ART. III.—*Case of Internal Strangulated Hernia operated on by Abdominal Section. Laparotomy.* Read before the Oneida County Medical Society. By EDWIN HUTCHINSON, M.D., Surgeon in charge St. Elizabeth's Hospital, Utica, N. Y.

The 28th of January, 1878, I was asked to go at once to Clinton, N. Y., to see a gentleman about fifty-seven years of age, a patient of Dr. F. M. Barrows, and to be prepared to operate for hernia. The messenger who came for me gave a very intelligent description of the case, stating that the patient had had an old hernia of fourteen years' standing, which was reducible, and for which a truss had been constantly worn. The fourth day previous to my being called, he was taken with a sharp pain in the inguinal region, and in about ten minutes afterwards he commenced to vomit.

I at once went out to see the patient, and found the facts

as related quite true. He was in bed, comfortable, except with occasional pains; pulse good, about ninety, full and strong; countenance calm, and abdomen natural but slightly retracted. His general appearance and condition seemed to be favorable. There was no tumor.

The Doctor informed me that the hernia had been reduced two weeks before this attack, and had not made itself visible since. He had suspected that there must be some internal strangulation, from the sudden pain, the stercoraceous vomiting, and the obstinate constipation. He had put his patient to bed, and had given anodynes constantly. This accounted for the good pulse and moist skin. He had not given any cathartic by the mouth, but had tried faithfully to inject the lower bowels, with a view to remove the obstruction.

After deliberate and careful consultation with the Doctor and one other physician, Dr. Galley, we concluded that there was a strangulation of the gut at the left internal abdominal ring. Not knowing but that it might be dislodged by manipulation and position, I gave the patient chloroform and then raised his hips in the air, to try whether the weight of the intestines might not draw against the incarcerated bowel and thus set it free. We tried this method faithfully, and then gave him a small dose of castor oil, to find whether we had been successful. We thought we could safely postpone the operation until the next day, and I returned to Utica.

The Doctor gave a very unfavorable account of his patient when I saw him the following morning. He had vomitted frequently, during the night, offensive stercoraceous matter; his bowels had not moved, and he was anxious to have an operation attempted at once. We accordingly brought him under the influence of chloroform, and I made an incision in the linea alba, between the umbilicus and pubes. Reaching the peritoneum, I divided it carefully, and introducing my fingers into the abdominal cavity, at once found the knuckle of intestine caught at the internal ring in a pouch of peritoneum, its own sac, and firmly bound to it by adhesions. No part of the gut was in the inguinal canal, but the pouch was entirely within the abdomen, and I distinctly felt it and its

contents. Pulling gently, I succeeded in detaching the gut from its position, and bringing it out through the wound, found it covered with lymph. We examined it very carefully, both by touch and smell, and although it was of a light chocolate color, concluded that it had not become gangrenous. We then returned it, and united the wound by silver sutures. Dressing cotton was applied to the parts, and adhesive plaster to keep everything in position.

The operation was done under chloroform; warm carbolic acid solution was used for bathing the instruments and hands; the room was made very warm, and every precaution taken to prevent any accident. Morphia and stimulants were given freely, but sharp pains came on, and he died the next day at three o'clock in the afternoon.

Dr. Barrows made an autopsy, and found the gut gangrenous at the place of constriction. He regretted, with me, that the operation had not been made a day earlier.

Formerly, obstruction of the bowels, from whatever cause, was named ileus or volulus, and the terrible pain which characterizes the outset of the affection was called the iliac passion. Remedies without number have been suggested, both by the mouth and rectum, with a view of disengaging the intestines from whatever might cause a stoppage of the flow of matter through them. The operation which we now bring forward was done by the Indians of the Brahmanic period, and by Proxagoras; still, as Leichtenstern states, at a discussion in the Academy of Surgery in Paris, at the end of the last century, they came to the conclusion "it was better to leave the patient affected with ileus to Providence, even if the case was hopeless, than to endanger the profession and authority of physicians by performing laparotomy." Of course, such a conclusion could only be reached by a general uncertainty in diagnosis, for in cases like the one now before you, could the operation be made early, there is no question but that many lives could be saved.

The fact that a hernia had existed so long on the left side, and that, although there was no external tumor when the attack came on, still, the symptoms being those of strangu-

lated hernia, forced us to the correct conclusion that this was a case of internal strangulation. We now lose most of the uncertainty of the older surgeons, and know more positively what we have to do. The method of making the incision was discussed, and although Dupuythreu and other surgeons have advised following up the inguinal canal and relieving the constriction from without inward, still, in this case, there was no tumor to guide us, and it would have been impossible to perform it in that manner. The method selected was simple, comparatively safe in view of the statistics of abdominal section afforded by ovariectomy, and as it proved, gave the best possible access to the imprisoned gut.

The statistics collected by Leichtenstern, give a mortality in seventy-nine cases collected by him of fifty-five, or seventy per cent. Adelman gives a mortality of fifty-four per cent., and Delaporte of forty-three per cent. These, of course, include cases of strangulation by false membranes, as well as by internal hernias, and are not as favorable as would be a collection of cases including only the latter. It is to be wondered at that there is so little written of this operation in the modern text-books. The best paper, by far, I have found, is by Leichtenstern, in volume seven of Ziemsen's *Cyclopedia*. Pollock also gives some statistics in Holme's *System of Surgery*. It is curious that the authority quoted giving the strongest support to the operation for opening the abdomen in cases of internal obstruction, is Rokitansky, who, of course, bases his opinion on the large number of autopsies he has seen where death might have been prevented by resorting to surgical skill.

Amussat's operation, or lumbar colotomy, is now frequently performed in cases where the obstruction is near the rectum, but Littre's, as the one we have been considering is called, is rarely undertaken. It of course would be indicated only in cases where the small intestines were involved, and where no tumor could be discovered. I hope that my experience may lead other surgeons to adopt this method in any similar case, before it is too late to prevent the death of the patient.

ART. IV.—*Pulmonary Hemorrhage and its Relation to Tubercular Consumption*. By CHAS. H. S. DAVIS, Meriden, Conn.

Since the days of Laennec, spitting of blood has been looked upon as a result of phthisis, but before his time it was perfectly well known that hemorrhage might precede the outbreak of the disease. In most of the medical books, hemorrhage is mentioned as among the most common symptoms of tubercular consumption.

This, so far as my own experience goes, is an error, and one very liable to mislead those who have not studied with close attention the disease at the bedside of the sick. Dr. D. J. Condie* says that of three hundred and sixty-nine cases of tubercular consumption; of which he kept very full notes, hemorrhage occurred in eighty-seven, while in two hundred and eighty-two of the cases it neither preceded nor was present throughout the attack. There is no doubt, however, but that hemorrhage is frequently the exciting cause of tubercular consumption, in the following way: The blood remaining in the bronchi and air-sacs gives rise to a pneumonia, the products of which undergo caseous degeneration, and frequently, after a hemorrhage, an increased temperature and other evidences of a fever may be noted, and sometimes the presence of crepitation may be detected by auscultation. Hemorrhage may occur in those who are neither phthisical at the time, nor later became so. 2d. Hemorrhage may also be caused by the same diathesis that causes phthisis, but stand in no general relation to it. 3d. Hemorrhage may precede the development and stand in a genetical relation to such development. 4th. Hemorrhage may be developed in the course of phthisis. 5th. Hemorrhage may hasten the fatal termination. It is well to remember, in making a diagnosis, that hemorrhage may occur in certain forms of heart disease, in gangrene of the lungs, in cancer, in cirrhosis of the lungs, and occasionally, in women, as a form of vicarious menstruation. When the bleeding is from the bronchi, the lower down its source, the more serious it becomes. Very

*American Journal of Medical Science, January, 1872.

bright colored blood almost always comes from the bronchial vessels, and the lower down it originates, the more it will be mixed with the mucus. When blood comes from the lung tissue, it is always very dark, and comes up pure, and generally in profusion. Capillary, bronchial, and pulmonary hemorrhages not infrequently lay the foundation of consumption in persons in whose lungs neither tubercles nor pneumonic centers are present; and when they do so, it is frequently, as we remarked before, through cheesy metamorphosis of the blood remaining in the alveoli of the lungs, and the product of inflammation caused by its presence. In the same way, bronchial or pulmonary hemorrhages hasten the course of an already existing consumption, by means of this tendency to hasten the destructive inflammatory processes. Whether rapid consumption will follow an attack of hemorrhage or not, depends on the presence or absence of a strumous or scrofulous diathesis in the person attacked. As to the cause of the hemorrhage which is met with in those who have tubercular consumption, or who are predisposed to an attack of the disease, it varies in different cases, and certainly at different stages of the disease. The most common cause, and the one most incidental to tubercles, is from the rupture or ulceration of bands of pulmonary substance which traverse tuberculous excavations, the bands sometimes containing vessels of a sufficient size to occasion a copious hemorrhage. In some cases it is evidently the result of a state of hyperæmia or congestion of some portion, of more or less extent, of one lung or both, the overloaded vessels relieving themselves by a percolation of blood, or by a rupture of the coats of one or two of them. In other cases, the blood contained within the air-cells may escape into the interstitial areolar tissue, and coagulation takes place in these situations, that is, the blood is extravasated. In other cases, we have traced it to a slow but constant exudation of blood from the mucous coat of the more minute ramifications of the bronchial tubes. In the latter case, the matter expectorated consists of a mucoid fluid intimately mixed with blood, giving to the sputa a color like that of the rust of iron; sometimes the

sputa have very much the color and consistence of currant jelly. Tuberculous deposits by compression of the veins may prevent the free return of blood to the heart, thus causing an exudation. We have a similar instance in hemoptysis from disease of the heart, the free passage of blood from the lungs through the left auricle and ventricle being obstructed. Bronchial hemorrhages occur much more frequently in the course of a consumption than before the disease. They really refer to the time in which the lung disease was as yet latent. So far from hemorrhage having that serious, or even almost necessarily fatal augury, which was ascribed to it by some of the most distinguished classical authorities not many years since, it is the tendency of recent observation to associate hemorrhage rather with a curable class of cases, and to regard it as frequently affording a harmless and even beneficial relief to mechanical congestion. A moderate hemorrhage, occurring just preceding the development of tubercles, may, and often does have a tendency rather to retard than to promote such development. Those cases which do get well, almost invariably have a hemorrhage before recovery takes place.

It is in the earlier stages that hemorrhage may be beneficial, but from the middle to the latter part of the disease, the result may be different. Swett says* statistical tables prove that those consumptive patients who experience hemorrhage, usually live longer than those who do not. Oftentimes the flow of blood is attended with a feeling of decided relief, especially if it assumes the character of a passive hemorrhage. There are many persons, more or less tuberculous, who, from time to time, expectorate even large quantities of blood, who after a little rest to recruit the exhausted strength, return to their occupations, and live on, year after year, without any apparent loss of health. Hemoptysis, proceeding from bronchial hemorrhage, may destroy life, either by suffocation or by exhaustion from the loss of blood, but the cases are so very rare that the danger of fatal consequences is scarcely to be considered. A really dangerous hemorrhage

* Diseases of the Chest, p. 248.

almost always carries off the patient very quickly, but in most cases there is no immediate danger whatever, and the fright, under the circumstances, often injures the patient more than the loss of blood sustained.

In a great many instances, patients have been injured more by their respective physicians, than they would have been if left entirely without medical treatment, and it would be good advice to patients never to take any kind of medicine unless they are satisfied that the medical attendant fully understands the case, and is able and willing to explain its nature and origin. To prescribe strong styptics, such as ergot, sugar of lead, gallic acid, large doses of opium, or strong resins, etc., except in cases of real danger, is, to say the least, very bad practice; and yet we find this almost universally the case, no matter how mild the hemorrhage. A blood-vessel very readily contracts, of itself, and a clot artificially produced by the use of styptics sometimes prevents the contraction of the blood-vessel, and occasions secondary bleeding; and to cause a coagulation of the blood, especially in the smaller bronchi, can be productive of no benefit, but rather of serious injury to the patient. Coagulated blood remaining behind in the bronchi or alveoli after a hemorrhage, is one of the most common causes of tuberculosis. I have often found upon the second or third day after a hemorrhage, especially when styptics had been used, an increased temperature of the body, a frequent pulse, general disturbance of the system, more or less severe lacerating pains in the lateral regions of the thorax, and frequently fine râle, friction sounds, or a slight dullness, with diminished vesicular, or with bronchial breathing. Usually, after a few days, all the symptoms disappear, and the patient becomes convalescent. In other cases, the irritation of the lungs and plurae following hemorrhage, causes more serious symptoms, and the infiltration undergoes the cheesy metamorphosis, and the patient becomes consumptive.

TRANSLATIONS.

ART. V.—*Compressions of the Spinal Chord—Sudden Compressions—Slow Compressions—Pott's Disease.* Lectures delivered at the Faculty of Medicine, Paris, during 1877, by A. VULPIAN, Dean of the Paris Faculty of Medicine, member of L'Institut, and of L'Académie de Médecine de Paris, Physician to L'Hôpital de la Charité, etc., etc., reported and published by Doctor BOURCERET, and translated from the French by FRANK D. BEANE, A.M., M.D., Ex-Fellow of the Massachusetts Medical Society; member of the New York County Medical Society.

LECTURE II.

I shall begin, as I announced, with the study of compressions of the spinal cord, for compression plays an important part in a certain number of diseases of the cord and membrane. By following this plan we shall avoid frequent repetitions, and acquired data can be utilized without compulsory entrance upon, *de novo*, great details.

Compression of the spinal cord can occur suddenly or very slowly, gradually, and over a time more or less extended.

Slow compressions evidently offer the greatest interest in a clinical point of view, since they are oftenest observed, and give rise to the greatest variety of symptoms. We shall speak, however, of sudden compression [just now].

They principally occur in cases of fractures or dislocations of the vertebræ, traumatic or pathological, sudden collapse of the vertebral bodies consequent upon caries, in one or many of these bodies; under these conditions, compression acts upon a limited portion of the spinal cord. But other sudden or rapid compressions affect the whole length of the spinal cord. This is seen in cases of spina bifida, aneurism of the aorta, or rupture of an abscess, or, still better, in certain cases of meningeal hemorrhage. In the first case, that is to say, where compression only affects a limited portion of the cord, the symptoms vary according to the region compressed. It should, however, be mentioned that oftenest it does not exist uncomplicated, but accompanied by bruising of the medullary tissue. The majority of cases are furnished by fractures or dislocations of the cervical vertebræ.

Let us suppose, however, to make our point of departure as simple as possible, that compression affects the dorsal region. If the compression be very slight, it would only cause *paresis* of *motion* in the lower limbs; if greater, motion would be abolished [and] sensibility would, at first, be abolished, or at least [be] very feeble; transient loss of reflex movements in the hind limbs would be observed, due to spinal *shock*, which primarily complicates the compression. Paralysis of the bladder and sphincter ani are added to the above troubles. Incontinence or retention of the urine and fæces result; but, on the part of the bladder, retention of urine, with micturition from overflow, due to incontinence, is oftener observed. These various functional troubles improve. That part of the cord below the compressed spot shall recover reflex power; reflex power may even become greater than previous to the injury. Sensibility will also return, more or less modified, more or less feeble, and, as a resumé, during the time of observation, that is to say, during the existence of the disease, only paralysis of voluntary movements occurs, with preservation of sensibility complete or partial; incontinence or retention of urine and fæces may persist, but may also disappear almost completely. These phenomena can be produced in animals. I have been able to produce them in dogs, guinea-pigs, and frogs. I will only point out to you an interesting peculiarity observed in the frog alone. M. Fubini has seen the movements of the posterior lymphatic hearts become slower under the influence of a compression of the cord exerted above the origin of the nerves of the hind legs; on the other hand, he proves that under these conditions irritation of the sciatic nerves no longer produces changes in these beatings [of the hearts]; and in this way an obstacle to the production of this reflex phenomenon is interposed, according to J. Müller. According to M. Fubini, the results of his experiments show that the center of reflex influences, acting on the lymph-hearts, are seated in the parts of the cord nearest the encephalon, probably the medulla oblongata. Without dwelling upon these latest experiments, as I have not sought to verify them, I may say I am able to

convince myself of the reality of the action exerted by compression on the movements of the lymphatic-hearts. In fact, I have seen, like M. Fubini, that these movements become slower when compression is exerted on the frog's spinal cord behind the origin of the brachial nerves.

This is an interesting fact in relation to another which I shall soon have to point out to you [namely], the explanation of the influence of the cervical spinal cord of man over the frequency of the heart beats. This is not the place to dwell on the physiological explanation of the affections produced in such cases; they shall be considered under the head of slow compressions. It is important to remark that in cases of wounds, sudden compressions, the symptomatology is devoid of complications, and, for example, such various affections of sensibility as often seen in gradual compressions are not observed, or, at least, not seen at first. It should be stated that, with these exceptions, there are no very great differences between these two forms of compressions. The symptoms, as we have said, vary according to locality. When sudden compression occurs in the cervical region, affections of motion, respiration, circulation, and oculo-pupillary phenomena as well, occur. Death is often very rapid. But it is not always fatal. There are cases of recovery after reduction of cervical vertebral laxations; all the symptoms disappear. M. Brown-Séquard saw symptoms of compression in a patient, attacked by paraplegia following a disease of the vertebræ, disappear in twenty-four hours subsequent to the application of reduction apparatus.

But death is almost instantaneous if compression be seated above the third cervical vertebræ; and instantaneous if compression be the sequel to fracture or dislocation of the atlas and axis, rupture of the transverse ligament of the odontoid process, etc.

Other peculiarities should also be pointed out, but we shall recur to them apropos of slow compressions; and in sudden compressions they are, it should be stated, of little relative importance, the final catastrophe being always, or nearly always imminent, and soon ended.

I immediately pass, then, to slow compressions. They have been very carefully studied by my learned colleague, M. Charcot. I shall make numerous extracts from his lectures on this subject.

Gradual compressions may be observed under diverse circumstances:

First. In affections of the vertebræ, first stage of Pott's disease, simple or tubercular caries of the vertebræ, intervertebral arthritides, or other neoplasia, exostoses and gummata of the vertebræ.

Second. In cases of extra-vertebral tumors, (aneurisms, cancers, hydatid cysts, pre-vertebral abscess, retro-pharyngeal abscess,) opening into the spinal canal, whether destroying osseous tissue or working themselves through the intervertebral foramina, or through the spaces between the vertebral laminae.

Third. In the cases of injuries of the vertebral ligaments, abscess, tumors, or hydatid cysts developed in the tissues which immediately surround the vertebral meninges.

Fourth. In all affections of the dura mater—simple induration or tumors, sarcomata, myxomata, osteomata, cancer, psammoma; abscesses and hydatids in the sub-arachnoid cavity.

Fifth. In indurations of the pia mater and subarachnoid tissue, and in various morbid growths developed in that membrane. In cases of neuromata and myxomata of the nerve envelopes.

Sixth. In cases of tumor of the marrow itself—gummata, *tubercles*, cancer, sarcomata, and gliomata.

It follows from this enumeration that slow compression can arise in two ways: 1st. Much the most frequent, by acting on the surface of the cord. 2d. In cases of tumors of the cord, for example, it acts from the center of the cord toward the periphery.

Gradual compression of the cord has been carefully studied by Ollivier (d'Angiers), and, afterward, principally by authors of treatises on general pathology; by Jaccoud, in his work on paraplegia, and by Charcot, whose lectures on this subject

shall often serve us with what I have to say to you. As an example from the principal authors who have treated this subject, may be chosen, as the type of description of slow compressions, compression produced by Pott's disease of the spine. As is known, compression in this affection may occur suddenly or slowly. I have spoken above of the former, therefore I now only allude to cases where the compression occurs gradually, progressively. The cause of compression in this case, as pointed out by Ollivier (d'Angiers,) has been well studied by Gonzalès Echeverria, later by Michaud. The first idea was to attribute the compression to the deformity of the vertebral column. What really happens? At a certain stage of the disease, sinking in of one or several vertebræ take place during the progress of the caries. The osseous commissures having been destroyed, the cells of the medullary tissue become increased; the osteitis becomes suppurative, it can even form cavities in the body of the vertebræ, which sinks in under the weight of the upper portion of the trunk, and the vertebral column becomes inclined anteriorly at an angle which projects posteriorly on a level with the spinal processes. One or many processes thus become pressed backward according to the number of sunken vertebral bodies, and constitute a more or less angled gibbosity.

It is, therefore, rightly supposed that there is a more or less marked projection on the posterior aspect of the vertebral bodies, on a level with the sunken vertebra or vertebræ whose remains are pushed upward from before backward, and that this protuberance, resting on the anterior aspect of the cord and pressing it from before backward, exercises upon this anterior aspect a more or less considerable pressure.

One can notrefuse to admit the possibility of such a mechanism; compression probably occurs in certain cases, especially of sudden compression. But such is not the most ordinary cause. In man, the marrow does not fill up the vertebral canal; it escapes the cause of compression, particularly when it occurs from a lesion outside of the dura mater. Numerous cases of considerable deformities of the spinal column are also seen in rickets, osteomalacia, and Pott's disease,

without signs of compression of the cord. On the other hand, we see, in Pott's disease, signs of compression in cases where there is no deformity. Such cases are not rare. M. Lionville has very lately seen them. These remarks should induce the admission that, in the majority of cases, the compression, unless due to abscesses or caseous infiltrations of the vertebræ, causing considerable projection into spinal canal, is caused, according to MM. Echeveria, Michaud, and Charcot, by induration of the dura mater occurring on a level with the altered vertebræ.

M. Michaud has well described this lesion. It occurs as a pachymeningitis externus. This pachymeningitis is set up by the influence of contact of the dura mater with the osseous and ligamentous tissue, and becomes caseous; the most external layers of that membrane become inflamed; considerable connective and fibrous tissue cystogeny occurs; these new productions become vascularized, cell multiplication still increases, and at the end of a variable time, a caseous layer forms at some distance from the internal surface of the dura mater.

Sometimes these products are formed in the most superficial layers of the dura mater, (beneath these, the internal layers of that membrane are found intact, or nearly so,) of such a kind that it appears to the naked eye like a deposit upon the dura mater; only the microscope can dispel this illusion. At other times, the dura mater is altered throughout nearly its whole thickness, and intimately incorporated with the products of new formations; it may contain caseous abscesses, or [those] in process of caseification. Extensive indurations may thus occur, and cause compression of the sub-adjacent spinal cord. This compression is first limited, but it may become diffused during the progress of the pachymeningitis; strictly speaking, it can extend over the whole circumference; finally, it can involve a great portion of the spinal cord.

M. Michaud compares the morbid product to a kind of papilloma, to a vegetative inflammation. It is, in fact, an inflammatory process, with tendency to caseification. That

which well shows the mechanism of inflammation, which scarcely needs proof, is found on the internal surface of the dura mater, as I have shown—a pachymeningitis causing the formation of vascular layers analogous to those on the internal surface of cranial dura mater. Such is the most ordinary cause of compression in Pott's disease. I have recently observed, in my laboratory, a similar fact in comparative pathology. I found in a dog a changed inter vertebral disc, (partially destroyed,) and, on its level, a limited inflammation of the dura mater; on the external aspect of that membrane, and intimately united with it, caseous products were found which formed a very considerable elevation. I found, on a microscopical examination, fibrous tissue analogous to that of the inter-vertebral disc, and of cartilaginous capsules. Is it a vegetation of the dura mater? Is it a part of the altered tissue of the vanished inter-vertebral disc, which, at a certain moment, contracted adhesions with the dura mater? This last theory is the most probable.

It should, however, be admitted that, at the points where this adhesion is established, there is an inflammatory irritation of the most superficial layers of the dura mater. However that may be, considerable depression of the spinal cord existed on its level; and, remarkable fact, the animal which served for experiment presented no sign of paralysis at first, as has been very well proven.

In this dog, there had been no alteration of the other membranes of the cord. In man, adhesions of the dura mater with the pia mater, obliteration of the arachnoid and sub-arachnoid cavities, and indurations of the pia mater, occur. These adhesions are relatively rare, but injection and thickening of the pia mater, and interstitial myelitis, more or less marked, are frequently found, (Michaud.)

Is it to the condition of the membranes, and particularly to the condition of the dura mater and to the compression of the cord, which is its sequel, that all the phenomena observed in these cases should be accredited? Let us first examine what occurs. The most constant, lasting symptom is paraplegia or paralysis of the fore legs. This paraplegia has special char-

acters, which are: a partial or absolutely complete paralysis of motion, with perfect, or almost perfect preservation of sensibility, particularly tactile sensibility. Nevertheless, certain affections of sensibility may be added to the motor paralysis, or even precede it. There are, above all, painful phenomena. It is not rare for the paraplegia to be preceded and accompanied by pains in the affected limbs and in the back and abdomen, (*les parois du corps*). These pains are of different kinds and degrees; of slight intensity in some cases, in other cases they can attain the highest degree of intensity. There are pains in the waist, joints—sometimes lightning-like pains; we note all the comparisons which have been made as the pains of ataxia. These pains are ordinarily constant, with exacerbations; they have characters analogous to those of neuralgia, or pseudo-neuralgia. We know that pseudo-neuralgiæ are diagnosed from neuralgiæ by the absence of well marked painful "*points*," but, in reality, this is not absolutely a differential sign; there may be an exact resemblance, but error is very possible. Sometimes the patient complains of pain with a trembling sensation, or even pressure on one point causes the sharpest pain through the whole limb.

Gastric phenomena, hypogastric pains, etc., may be observed. These pains have been attributed by authors to the compression and irritation which the nerve radicles suffer during their passage through the dura mater on a level with their points of entrance and exit, the seat of the pachymeningitis. This explanation is admissible, and can be verified in a certain number of cases. But it may be asked whether they are not also due to irritation of the dura mater. It is generally admitted that the spinal dura mater is not sensible to experimental excitations in its normal state. This assertion is grounded on certain experiments which only give rise to doubt, and, also, upon the absence of nerve fibres. Pürkinje and Kölliker found no nerve fibres in that membrane. Rüdinger has seen independent nerves, and bundles of nerves in it.

There are a great number of nerve filaments in the perios-

teum of the vertebral canal, in the arteries traversing the vertebræ or spinal cord, in the venous and the loose adipose tissue of the spinal canal (Luschka, Rüdinger); finally, there are numerous nerves in the pia mater under the form of rich net-works, whose ramifications partly follow the course of the vessels into the spinal cord. Moreover, experimental physiology has demonstrated that the dura mater is sensitive. Firstly, the observations of M. Flourens. I can myself testify to their accuracy, as I assisted in his experiments.

Flourens proved that the dura mater, but little sensitive in the normal state, becomes very sensitive when inflamed. I was then his prosector. With M. Philipeaux, his naturalist assistant, we made the experiments which M. Flourens requested; consequently I speak of what I have *seen*. I can affirm that on the first or second day following an application of blistering ointment, or any irritant substance, to the dura mater of dogs, mechanical irritations of that membrane provoked considerable agitation and violent cries, which indicated very intense pain. But it must not be believed that the dura mater should not be sensitive in the normal state. Let the dura mater be uncovered for two or three hours, and pinching that membrane shall cause violent starts and painful cries.

Again, I have examined the sensibility of the dura mater under the following conditions: In curarized dogs under artificial respiration, we have attached the kymograph to the carotids; the spinal cord had been exposed. I then made a longitudinal section of the dura mater through the whole uncovered part, and immediately excited it by either faradic currents of feeble intensity, or scraping the internal surface, then the external surface, keeping the irritant as far away as possible from the points through which the nerve radicles pass, and lifting the layers of the dura mater in such a way they were no longer in contact with the surface of the spinal cord. I show you the kymographic traces recorded during that experiment. You can see the rise of the tracing (intra-arterial,) and the fall and rise of the pulsations of the heart at the moment of each excitation. Now, these modifications

of the tracing are unexceptional effects of a quick imprint I have also proven, in the clearest manner, that the pupils dilate at each excitation. Now, as I pointed out in advance of M. Schiff, proof of the sensibility of this tissue can be deduced from this dilatation of the pupils under the influence of the excitation of a tissue. I recall to you, however, that M. Schiff has ingeniously given the pupil the name of the "*æsthesiometer*," by reason of these facts. It is then possible that the premonitory pains, or those of invasion of compression in Pott's disease, may be partly due to irritation of the spinal membranes.

I do not, in the least, admit the legitimacy of the opinion of authors who attribute an important part to the compression and irritation of the nerves; but this opinion should not be regarded as exclusive.

We should not omit an account, too, of myelitis, which, in different degrees, accompanies so frequently, perhaps even constantly, compression of the cord in Pott's disease. Paraplegia gradually sets in, but does not generally become well marked. At first, there can be pseudo-paraplegia, that is to say, an almost complete inability to walk, stand, or even move the legs in bed, on account of pains.

I have seen, and any physician can observe this condition. One of my observations has been reported by M. Michand, in his inaugural thesis. During the existence of these pains, true paralysis begins. This paralysis, which may not be preceded by violent pains, presents the character I have already pointed out, and which has been verified by Ollivier (d'Angiers); (Vol. I, 487). Especially at first, and even for a long time, it may affect motion almost exclusively; at least, sensibility often remains, affected or not, although the patient cannot make a single movement. Here is an important peculiarity which merits the attention of the clinician, because it is a diagnostic aid in spinal compressions in general, being found in all cases of compression. Many a time, in my hospital service, I have dwelt on this characteristic in pointing it out in patients. If, in a case of paraplegia, there is preservation of sensibility and abolition of voluntary motion, it

may be safely said that it is due to a centric or eccentric compression, (transverse sclerosis can, it is true, in certain cases, produce the same result).

How can so remarkable a characteristic be explained? Not, assuredly, by the fact that compression acts upon the anterior portions, and not on the posterior. This rationale, seductive when applied to Pott's disease, loses all its value when we know that the same peculiarity is observed in the case of tumors developed on the posterior aspect of the cord, and compressing the latter from behind.

It is not necessary to seek the explanation in an affection of the anterior radicles, to the exclusion of the posterior. It is clear that both radicles traverse the dura mater at the same point, and that they should be affected at the same time and in the same degree, if there be communication of the irritation from the dura mater to the radicles. We must take the fact as it stands. *Total* compression of the cord (and it is well understood that *total* compression is in reality the result of a local compression,) acts upon motor functions before acting as a cause of paralysis on the sensory functions. One explanation cannot be brought forward, namely, that the white columns are indispensable to the motor functions of the spine, and that the elements of these columns, the nerve tubes, less easily escape the effects of compression than the nervous elements of the grey matter.

Sensibility requires, so to speak, simply that *some* of the grey matter shall remain, and even only a very little of that substance. I demonstrated this, last year, by experiments similar to those made by Mr. Brown-Séquard. It is possible to make them a little differently, by cutting out the greater portion of the cord from before backward, and making use of the blood pressure and pupilar æthesiometers. Blood pressure has been especially serviceable to M. Ludwig and his pupils as an æthesiometer; I generally make the pupil serve me.

I have seen sensibility remain in the hind legs of dogs in which I had not only cut away the superior half of the cord, but also the inferior moiety in such a way that only a quar-

ter of the cord, along its length, remained; that is to say, the anterior column, anterior grey horn, and a small portion (the most anterior) of the lateral column of the same side. It suffices, so says M. Brown-Sequard, that only a very little of the grey substance shall remain, establishing communication between the anterior and posterior parts of the cord, in case of injury of this nervous center, since sensibility can remain in parts of the body deprived of nerves arising behind (in animals,) or below (in man,) the injury. Can it be said that sensibility remains fully intact in these cases? It can remain unimpaired, but can also show more or less considerable modifications.

I have already spoken of the pains which can persist during a greater part of this affection. Again, however, sensibility can become diminished. We can also have painful anæsthesia; that is to say, idiopathic pains in parts a little sensitive to pressure or pinching, and the pinching, pricking of the skin in parts where sensibility is lessened, give rise to very much more acute pains if the irritation be a little violent, than in parts where sensibility is normal. This is one of the forms of *paræsthesia*.

Errors can occur in the appreciation of irritated spots, errors which even go so far as to attribute to one limb pains arising in another. There may be sensations of formication, numbness, trembling, as in compression of nerves, with an insupportable sensation of "nervousness, [i. e., "the fidgets."]

There may be *associated* sensations; that is to say, following a single excitation of a limb, there is a sensation reflected to the same limb, a minute afterward to the other limb. (Charcot, p. 117.) I repeat what I have before said, all kinds of sensibility may be affected in different ways, without our being warranted in attributing this fact to the existence of different, or differently located conductors. Sensibility only disappears in cases of very considerable compression, or when myelitis centralis, with destruction of the grey substance, occurs. Slowness of sensations should also be pointed out; very remarkable phenomena, as we shall find in locomotor ataxia, when we shall explain their pathological physiology.

We shall keep within bounds by saying right here that in all probability sensitive impressions, during inactivity of certain portions of the spinal cord, would follow a less direct route. What I have said concerning more or less complete preservation of sensibility, only applies to cases where the compression does not act on the dorso lumbar enlargement and *cauda equina*. And even in these cases there is some resemblance, for peculiarities of the same kind are observed even in cases of nerve compressions. But when compression is made on the dorso-lumbar enlargement, there constantly exists an abolition of reflex phenomena, even when sensibility is preserved. If, on the contrary, compression takes place in the dorsal region, reflex movements remain intact, and may even be exaggerated, especially, perhaps, when sensibility is diminished, for then the interruptions between the lower portion of the cord and the encephalon is more complete; and on this account exists the power of medullary reflex exaggeration.

It is not necessary to attribute this phenomenon to abolition of pretended power of arrest exercised by the cerebrum (isthmus-) on the spinal cord (Spichenow), but to what the spinal cord assumes, so to speak, from undestroyed nervous influence.

Spasmodic phenomena, contractures, may follow or complicate the paralysis. Phenomena of spasmodic flexion and extension of the limbs, painful contractures or spasmodic movements preceded by pains which seem to provoke them, occur. Spasmodic contractions are also seen, caused by external impressions, sometimes by simple exposure to the air. These are the phenomena entitled, *spinal epilepsy*.

ORIGINAL LECTURES.

ART. VI.—*Lectures on Insanity* By DANIEL H. KITCHEN, M.D., Chief of Staff of the Hospitals on Blackwell's Islands, New York. Delivered at Charity Hospital, during October and November, 1876.

LECTURE VI.—CONCLUDED.

We repeat, to some extent, a few of our remarks on the action of conium:

1. Muscular relaxation.
2. Duration in proportion to dose.
3. Physiological effect in proportion to purity of the article used.
4. The brain is not affected directly by conium.
5. Pulse and temperature both reduced after a full dose.
6. A gentle perspiration covers the whole body as soon as the physiological effects are observed.
7. No appreciable effect on any of the secretions.
8. Quietness lasts from two to four hours, and then disappears, leaving only a sense of lessened muscular energy.
9. Conium, not acting on the brain, may safely be given in all febrile diseases.
10. Conium, when applied to the skin, causes slight redness.

Dr. Burman gives the following conclusions from the hypodermic injection of conia:

1. Conia is too powerful and too irritant to be administered internally alone; but when neutralized with acid and in bland solution, there is no reason why it should not be used internally, in suitable doses, and thus produce well marked cicutism without any topical irritation.

2. Pure conia may be injected under the skin, in large quantities, without leading to any result except the formation of an abscess, or the production of considerable local irritation at the site of injection.

3. Conia, neutralized with acetic or hydrochloric acid, and dissolved in spirit and water, acts very rapidly and powerfully, when subcutaneously injected, in pigeons, frogs, guinea-pigs, rabbits, dogs, and cats; and when thus used in doses of from mss to mij, in the healthy human subject, it produces well marked cicutism.

4. Thus administered, it may be used therapeutically, in doses of from mss to mij, in cases of *mania*, with the result of subduing motor excitement, warding off emaciation and exhaustion, and promoting recovery. The strongest conia may be thus administered, commencing with doses of $m\frac{1}{10}$ th and gradually increasing, in proportion to the motor activity of the patient, until decided physiological effects are produced.

5. When thus administered, the use of conia does not lead to any disturbance of the digestive function, interference with the circulation, or any considerable local irritation.

6. The most suitable cases for treatment by the hypodermic injection of conia, neutralized and in solution, are those of *acute mania*, where the brain lesion is not *organic*, and where medicine, if given by the mouth, would require to be administered with the stomach pump.

7. Conia, acting upon the purely motor centers, in a sedative manner, and morphia acting in a similar way on the sensori-motor and idio-motor centers, it follows, as a fair corollary, that the combination of the two, in subcutaneous injection, should lead to effects directly antagonistic to the condition of maniacal excitement; and such being, in fact, the case, they may be thus used together, with very great success in the treatment of cases of mania.

8. Conia might be very useful, as a subcutaneous injection, in cases of poisoning by strychnia, as well as in tetanus, hydrophobia, and other spasmodic diseases.

9. Specimens of conia, as obtained from *different* sources, vary very considerably in appearance and strength, and they may be rendered dangerous or unfit for use, in the human subject, on account of impurity. Too much caution, can not,

therefore, be observed in the first use of a new specimen, until its strength is ascertained.

10. Conia, as obtained from chemists in England and Scotland, is manufactured, for the most part, abroad. The best and purest conia is prepared from the *seeds* of the *uncultivated* plant, and, in order to avoid variability, all supplies of it should be drawn from some *one* good manufacturer, with directions that it should be so prepared.

11. An increased demand for conia is all the stimulus that is required to lead to the production of a crystallizable salt of it, of stable and uniform strength, and sufficiently soluble in water for the purposes of subcutaneous injection.

12. Mss of the best conia (costing $\frac{1}{4}$ d.) subcutaneously injected, neutralized and in solution, is equivalent in action to about fl oz j of the best succus conii (costing 2d.), administered by the mouth.

CASE 1.—Man, age 28, married, carpenter, common education, uses tobacco and liquor; admitted to treatment in January, 1872. Patient was a large, well-built, powerful man, and had enjoyed good health till present attack. First symptoms of insanity were noticed early in 1871, when he became irritable and ugly to his wife, talked incoherently and constantly, developed rapidly delusions of wealth, had hesitancy in speech, spoke very indistinctly at times, had delusion that he was Governor of the State, and afterward the President. Hesitancy of speech, with muscular twitchings of the face increased. On seeing him, he was found anæmic and thin in flesh, excitable, spoke very slowly, and with difficulty; tongue tremulous, gait staggering, had delusions of great wealth, was coherent in speech; said he had slept very irregularly for some time previous, and then only under influence of morphia hypodermically administered. He became very much excited, was noisy and destructive, repeated over his delusions; was given mxx of fluid extract of conium without any apparent effect; in half an hour, same quantity repeated; in an hour afterwards he was quiet, asked to lie down, and slept two hours; in the evening the same dose was repeated, and patient slept all night.

The following day he was much excited and incoherent; conium was now ordered in mxx doses four times a day. He had several parietic seizures after admission, and was somewhat disturbed at these times, but the greater part of the time was quiet. The medicine was continued for ninety days, and he improved much in general health. In this case the conium secured comfortable sleep, did not interfere with digestion, and kept the patient quiet during the day.

CASE 2.—Man, age 56, married, physician and dentist; has used liquor and tobacco to excess; native of New York; was first seen in January, 1872. Patient has enjoyed a lucrative practice for thirty years, and always had good health until 1865, when he had an attack of mania brought on by exposure and excessive drinking. From this attack, which lasted about a month, he seemed to have fully recovered. He soon resumed his professional duties, and was apparently well until about three years ago, when he became gloomy, neglected his duties, and was very absent-minded. This state continued, and in the latter part of 1871 he visited Europe, and consulted the most eminent physicians. For a time he seemed to improve, gained in flesh and strength, and his appetite was good. Soon after his return he became very melancholic; was suspicious of his family; talked of suicide, lost his regained flesh and strength; was wakeful, though anodynes of various kinds were administered. He was very pale and anæmic, thin, and looked haggard, feeble in mind, suspicious; said he was brought here to be killed; asked protection of the doctors, saying that his family would starve and go to the poor-house; had not taken food for some days previous; was given milk punch and half a drachm fluid extract of conium the evening of admission. He slept all night, and the following morning he was cheerful and said he felt much better. The conium was repeated in mxx doses three times a day; patient complained, after each dose, of smarting over his eyes, and a dizziness and dragging sensation in limbs, so much so that he always wanted to lie down after taking his medicine. He continued quiet and slept well each night till February 5th, when he became disturbed, said he was going

to have a movement from his bowels that would flood the room, and that his family were all around him on this account. A drachm of the fluid extract was now given at once; in twenty minutes he was quiet, and in half an hour was asleep. The medicine was then given as before, and patient has continued quiet and slept regularly since. It was stopped in August last, and in January the patient was discharged much improved.

CASE 3.—Man, age 27, married, two children, tanner, uses tobacco and liquor; native of New York; paternal aunt insane. Patient was always in good health till seven weeks before seeing him, when he fell from a load of hay and injured his head; symptoms of insanity were at once developed; he became noisy and excited, was incoherent, had paroxysms of violence in which he became very destructive, and was in restraint a great portion of the time. We saw him in handcuffs, was talkative and incoherent: pupils widely dilated, face and hands congested, tongue moist, had not taken food for three days; had been under medical treatment since attack began, but medicine did not seem to have any appreciable effect. He was given a drachm of the extract of conium; was very noisy for an hour, when he suddenly became quiet and asked to lie down; he continued quiet for about four hours, when he had a severe paroxysm of noise; was now put on mxx doses four times a day; was more or less disturbed for a week or ten days, when he became quiet and seemed to realize his condition; from this time he began to walk out, and rapidly improved; conium was continued at night for two months; after three months, he recovered. In this case marked quietness followed the administration of each dose, and the diminution of motor excitement was gradual.

CASE 4.—Man, age 21, single, farmer, uses tobacco; native of New York; no hereditary tendency to insanity; came under notice January, 1872. Patient was a large, muscular man, and had enjoyed unusually good health till June, 1871; while working in harvest-field, had partial sunstroke, from which he rallied and seemed to recover in about four weeks.

In August following, symptoms of insanity were developed; complained of intense pain in his head, was unable to do any work; following this he became gloomy and despondent, was seclusive, refused to go to the table with the family, would not see his friends, was wakeful and restless, frequently sitting up almost all night. On admission, was thin in flesh, complexion sallow, pupils dilated, tongue coated, bowels constipated. Was put on bromide potassium at night in doses of twenty grains; this was continued for two weeks, patient sleeping only a part of each night, and looking more haggard; bromide was stopped, and fluid extract conium was given in mxx doses at night; sleep followed, and he began to improve, became more cheerful, talked freely of his condition and of the effect the medicine was having on him. Conium was continued till recovered in April, 1872. Patient gained twenty pounds.

CASE 5.—Man, age 57, married, farmer, seven children, common education, native of New York; first seen, February, 1872. Patient was of feeble constitution, but actively engaged in business, and had periods of exhilaration and depression. About twenty years ago he had an attack of melancholia, from which he recovered, but since that time he has had a number of marked periods of depression. For six months previous to treatment, he was melancholic, suspicious of his wife and family, thought they were plotting to kill him, and expressed other delusions of a depressing nature. On admission, was very much emaciated, anæmic, pulse feeble, pupils dilated, eyes injected, voice tremulous, and bowels constipated. For two days following was gloomy, ate very little, and was up about his room most of the night; the day afterwards, being the third, he was put on fluid extract conium, mxx three times a day; he enjoyed a refreshing sleep each night, and expressed himself satisfied to remain, "If I can only sleep and get rest." March 28, has slept well every night since conium was given; gained in flesh, dropped delusions, and seems to realize his condition. In May he recovered; patient's friends say he is in better health than at any time for the past twenty years.

CASE 6.—Man, age 61, married, thirteen children, laborer, uses tobacco and liquor to excess; native of Ireland; first seen in November, 1871. Usually enjoyed good health, and was always able to do his day's work on the railroad. Six months previous, had been drinking, and lost flesh and sleep; about three weeks previous, became maniacal and violent, had to be restrained and taken to jail to prevent him from killing his family; while there, he was destructive, violent, abusive, and obscene. On seeing him, he was thin in flesh, pulse small and frequent, noisy and incoherent, hoarse from constant hallooing; was put on chloral and hyoscyamus at night, which was continued for a few days, but he slept irregularly, and about December 1st, became more disturbed. Conium was substituted, mxx four times a day, and after a few doses, he became quiet and slept well. The medicine was continued at night till March, 1872, when he was in a comfortable condition for some time; he, however, began drinking as soon as he reached home. After remaining a week, he became as acutely maniacal as on former occasion; was given conium at once, which was continued for a week, when he became quiet and slept well, appetite slowly improved, and he gained in strength. Is at present time about well.

CASE 7.—Woman, age 37, married, seven children, house-keeper, common education, uses snuff; native of New York; two sisters have been insane; first seen March, 1872. Patient has always been in delicate health, but was able to be up and about the house. Twelve years ago, after the birth of a child, she had an attack of mania, which lasted about six weeks. She recovered from this attack, and was in her usual health until about three weeks before we saw her, when she again became insane; had been sitting up at night with a sick mother and became thoroughly exhausted; lost flesh and strength, appetite failed, and was noisy and destructive at home. On first seeing her, was very incoherent and talkative, and had to be in restraint; was ordered hyoscyamus and chloral, but during its continuance was as noisy as before. Bromide of potassium was now substituted with like results

In August, there had been no improvement, either mentally or physically, and she was very thin in flesh, and anæmic. Succus conii in drachm doses, four times a day, was now substituted; the effect was appreciable at once; she became quiet, slept well at night, was coherent in conversation, with a fair appreciation of her condition. During the month of August, same dose was continued, but in September it was reduced to a drachm each night. This is still continued, and at the present time she is improving both mentally and physically.

CASE 8.—Woman, age 46, married, two children, house-keeper, common education, good habits; native of England; great-grandmother and great-grandfather were insane; treated in April, 1872.

She was in fair health until about eighteen years ago, when she was delivered of her first child; *proclidentia uteri* followed and continues; has been taking medicine constantly since that time; about a year before seeing her, symptoms of insanity were first noticed. She had hallucinations of sight, that people were in her room at night; said they were talking about her, and laughing at her, and complained that her husband was laying plans to kill her. This was soon followed by a paroxysm of maniacal violence, which continued for some days, after which she was gloomy and melancholic. These paroxysms came on at irregular intervals for the past year, and at times were so severe that the patient had to be restrained; she was restless and slept very little, lost flesh and appetite. She was thin in flesh, face flushed, pulse rapid, was irritable and excited, very abusive to her husband and those who accompanied her. She was put on succus conii at once, and slept a portion of the night. The following morning she was noisy, destructive, and incoherent. Two drachms were given, and as soon as the physiological effects were observed, which was in half an hour, she became quiet and asked to go to bed; was kept under its influence for a few days, when the dose was lessened to one drachm three times a day. The medicine was continued for thirty days, during which time she had no return of the paroxysm. Her appe-

tite increased ; she slept well, improved very much in general health, and in September recovered.

CASE 9.—Woman, age 37, married, two children, house-keeper, common education, good habits, two paternal cousins insane. First seen in August, 1872. Patient had enjoyed fair health till about two years ago. At this time, while traveling, she became tired and exhausted, and had uterine hemorrhage, after which she gave birth to a still-born child. She became much depressed afterwards, and, unfortunately, fell into the hands of irregular practitioners, and soon developed delusions of a depressing nature. About two months before we saw her, was treated by a distinguished physician for ulceration of the *cervix uteri*, and was relieved. During this time she developed the delusion that she was called to preach ; neglected her habits, became careless ; on one occasion went from the sick bed to a house of prostitution to warn the inmates to repent ; prayed constantly, lost in flesh, and large doses of hypnotics failed to procure sleep or quietness for even a short time. We found her in a state of frenzy ; very much excited all the afternoon ; thin in flesh and anæmic ; labored under the delusion that a serpent controlled her actions, and thought it was the devil ; said she was afraid it would impregnate her ; would run across the room, frightened, saying she saw the serpent. At 8 P.M., on the same night, was given a drachm of the *succus conii* ; in about half an hour she was perfectly quiet, and perspiring freely ; slept four hours during the night. She continued in an excited condition for about two days, when she became quiet and slept well every night ; appetite began to improve. The medicine was given for thirty nights, when it was discontinued. Although the patient retained delusions, she became quiet and comfortable, and improved so much in general health that she has since recovered.

CASE 10.—Man, age 34, single, clerk, common education, chews tobacco, and has used liquor moderately, but none of late ; treated in March, 1872. Patient was always in delicate health ; about three years before, had an attack of acute bronchitis, which lasted four weeks, after which he became gloomy,

depressed, and secluded himself; lost all interest in his business, and for a year after, remained idle. In fall of 1870, began to work again, but was not in a condition to do so. In January, 1871, had a convulsion, and was unconscious for two days; after this, grew worse, talked of suicide, but never made an actual attempt. From this time, was gloomy and depressed, lost in flesh, wakeful and restless at night; took chloral in large doses, and for a time slept well, but its effect was soon lost upon him. When first seen, was thin in flesh, anæmic, bowels constipated, tongue coated with a white fur, eyes injected, skin sallow, pulse small and wavy; temperature normal. He was not given anodynes for two days; took little food, and did not rest well. Conium was ordered in mxx doses, three times a day, and a tonic was also given. In April he had gained twenty-five pounds in flesh, and had slept well nearly every night since the medicine was commenced; at times he is very much depressed, though he says he has not felt better for some years. Appetite has increased so that he now does without the tonic, and eats regularly. In July conium was stopped, and in August he was well.

CASE 11.—Woman, age 21, married, one child, good habits, native of Connecticut; academic education; seen in June, 1872. Patient was a delicate and nervous woman; at the age of thirteen, began to complain of pain in her head; at sixteen, had an attack of mania, which lasted about three months, and at eighteen was married. On the evening of her marriage she again became insane, and was taken to an asylum, where she remained five months, and was discharged recovered. After this she went to Germany, where she remained two years, and there gave birth to her only child; had a natural labor and suffered no mental trouble. On her arrival home, she at once showed signs of mental disturbance; was excited and talkative; was kept quiet and alone for a few days, when she was herself again, and continued in fair health till date of present attack, in June last. Then she became violent, noisy, destructive, abusive, and very obscene; was brought to our notice in this condition, thin in flesh and anæmic, pulse small, pupils widely dilated; breath foul, bow-

els constipated; was at once given hyoscyamus and chloral, and put on tonic treatment. This was continued till the first of August, when she was put on fluid extract conium in mxl doses. She continued maniacal for a few nights, then became quiet, but was incoherent and very talkative. After this she was very comfortable, and slept without aid of sedatives till September first, when she again had a paroxysm of noise, and had to be restrained. She was now put on succus conii, in drachm doses, every night at bed-time, and in three days became quiet, and began to improve. The medicine was given at irregular intervals, and regulated according to her desire for sleep, and she steadily improved in both mental and physical health, and recovered November, 1872; at date of present writing, patient says she never enjoyed better health.

CASE 12.—Man, age 27, married, two children, engraver; uses tobacco and liquor to excess; no hereditary tendency to insanity; first examined April, 1872. Patient has practiced self-abuse since the age of fourteen; at twenty-one, was married, and discontinued the practice for a few months, but began again; had gonorrhoea a number of times, but no other venereal trouble. For a year previous had been drinking to excess, and frequently visiting houses of prostitution. In January, 1872, developed first symptoms of insanity; began to neglect his business; made mistakes in his work, and was careless. His employer attributed it to excessive drinking, as five gallons of alcohol were missing from the store, and he acknowledged that he had drunk it. A change in his speech was at first noticed, a thickness, with difficulty in articulation; called on his friends, and had no recollection the day after of having done so; walked fifteen miles and informed a family that he came all that distance to remain over night, and that no other house could accommodate him; was gloomy and depressed, and made an attempt to cut his throat with a pen-knife. We found he had considerable difficulty in speech; talked slowly and with great care, muscles of right cheek slightly contracted, and sensation somewhat less than on the left side. His tongue was very tremulous and inclined to

right side, but there was no history of a paralytic attack. The pupils were largely dilated, skin sallow, pulse small; no marked delusions; had been more or less wakeful for a month past, and taken largely of anodynes, especially chloral; looks haggard, which he says is from want of sleep. For the first week, was very much depressed and despondent, always asking if he would get well, and insisting that he had softening of the brain; had great tremulousness of hands and tongue, and disturbance of speech, but no delusions. Given tonic with conium at night. June 25, no marked mental change; to-day had an eruption of semi-confluent small-pox; was given bromide potassium and conium alternately, and kept quiet. He slept well, made a good recovery from the attack and improved rapidly, and in August had completely recovered.

Cannabis Indica.—This drug has many of the good qualities, but also the same objections, as opium. It is, however, more anti-spasmodic, and, therefore, useful as an adjuvant to other remedies, particularly the bromide of potassium, in all cases of insanity complicated with spasms, as epilepsy, some kinds of hysteria, convulsive twitches, etc.

Belladonna.—This medicine has fallen into disuse in hospitals for the insane, on account of its powerful and dangerous action, in large doses. Most excellent effects are sometimes obtained in cases of insanity, with neuralgic and rheumatic pains. Occasional benefits in epileptic insanity are recorded, also when chorea is associated with mental symptoms.

Hyoscyamus.—This drug excites the circulation like opium at the beginning, but does not constipate,—it relaxes the bowels. It subdues nervous and spasmodic action without being so powerful and dangerous. It produces sleep like conium, but not with that certainty and permanency of action. It is, therefore, given to patients with great nervousness, in hysteria, spasmodic asthma, particularly when, with its other affects, a laxative influence is to be exercised.

Dulcamara.—This is too feeble as a narcotic to be given for the same purpose, but is a very useful constitutional remedy

in insanity, where these disagreeable dry and scaly skin eruptions form an associating symptom, particularly when further combined with chronic rheumatism.

Hydrate of Chloral.—The effect of this drug is that of a complete and effective narcotic, without subsequently producing headache and a sick stomach. Its action upon the circulation is to reduce the pulse in frequency, and after a time, also in force, although at first the heart's action is increased in strength. Its great advantages are that it does not lose its effect by repetition, and the dose need, therefore, not be increased. It does not constipate, it has no influence on se—or excretions, and the hypnotic influence is that of natural sleep. Its great value as a sleep-producing and quieting agent is highly praised, and can not be disputed. With all these good qualities, it has, however, been found that it does not seem to have any curative power; in short, that the patient's mind, after ever so many refreshing sleeps, seems to awaken in the state it was before. If its further use, (for it is comparatively a new remedy) should corroborate the above statement, the use of it would be but a substitute for a cam-isole. In other words, it is a good temporal remedy, and of service as such in cases of acute mania, in the periodic attacks of chronic mania, or those of dementia. It is also said to prevent the violent mania after an epileptic fit is over. As the constant use of it seems to have a depressing effect, it may be combined with some alcoholic stimulant, or a stimulating narcotic. Its dose is from fifteen grains to one drachm.

Bromide of Potassium.—In some respects, this remedy is similar to chloral, although it is not as surely hypnotic, but, on the other hand, a very valuable nervous sedative. Unlike chloral, it has decided curative qualities. The greatest inconvenience of its use for a long time, is the debilitating influence it has on the system. Therefore, it ought, like chloral, to be given in combination with tonics and nervous stimulants. The greatest good obtained from it, is certainly its tendency to diminish the force and frequency of attacks in the epileptic insane.

It is also efficacious in hysteric insanity, climacteric derangements during puberty, and in cases of satyriasis and delirium tremens. It has accumulative influences, and as soon as digestion becomes deranged by its use, which can be seen by the tongue becoming white, it should be discontinued. Its combination with iron has been highly praised in chronic cases of insanity with muscular activity, also together with *cannabis indica* in hysteric spasms.

The other narcotics and nervines are seldom used in insanity, and should, when employed, be given in reference to their physiological action and their consequent indications.

Ergot we have used with considerable success. The different preparations used, were the fluid extracts prepared by Squibb, and the aqueous extract, or ergotine, made by Merck, of Vienna. The dose of the former, is from one to two drachms; the latter, from six to ten grains. One drachm of the alcoholic extract of Squibb's preparation, is equal to about six grains of the ergotine. We have also used a solid extract, made by Squibb, which is about equal in strength to imported ergotine.

We have taken a number of pulse traces, noting the increase in frequency of the beats. The temperature has been recorded, with no marked change. The full physiological effect of ergot will last from one-half to three-quarters of an hour.

Our certain knowledge of drugs is limited; comparatively little is known of the true *modus operandi* of this one, though it has been in use for centuries. We present a few thoughts, hoping they may be of use to the busy practitioner; some may not be wholly original, while a new theory may be advanced, which will cause thought to the careful observer. Until within a recent period, ergot was mainly used in obstetric practice, but with increased scientific knowledge, it has been successfully applied in various conditions of disease. Ergot is admitted, by the best observers, to act directly upon unstripped muscular fibre; thus it is that ergot produces its peculiar effect on the uterus, the unstripped fibres of the bladder, the muscular layers of the intestines, and especially

upon the muscular coats of the blood-vessels. Its action upon the heart is not doubted, although it is not composed of unstripped fibre. Ergotine may act in two ways: First, directly on muscular fibre, in the same way as any other stimulant; second, through the nervous system, principally the ganglionic. The immediate effect of ergotine on the blood-vessels is marked and rapid; the pulse is increased in force and volume; the slow and wavering pulse becomes full and strong. This can be further ascertained by injecting ergotine into the bat or frog, first observing the circulation in the wing of the bat, and web of the frog's foot; before the injection, the circulation is slow; the vessels are tortuous; in a few seconds afterwards, the circulation is increased, and there are visible contractions of the vessels; in about ten minutes, the vessels assume the condition in which they remain till the effect has passed off.

The power of ergotine is manifest from its value as a hæmostatic, in reducing the size of blood-vessels. Jacobi, who has used it in fevers, says: "Many cases of obstinate intermittent fever will, when no longer benefited by quinine and arsenic, yield to ergotine." It is highly recommended in infantile paralysis, dependent upon congestion of the cord; that is, dilatation of the blood vessels, and usually with hemorrhage taking place in the vertebral canal. In chorea, or St. Vitus's dance with a congestion of the spinal cord, marked by intense pain, its use is unquestionable, and our experience only goes to show the correctness of many other observers. The reason, I suppose, why ergot has not been more generally used, was due largely to the old idea that it produced gangrene of the limbs, the features of which are represented by coldness, rigidity, anæsthesia, and sphacelus of those parts which suffer from it. This idea (we think we may safely call it an idea) is gradually losing ground. The symptoms of cerebral anæmia quite correspond with ergotism, namely, giddiness, dimness of vision, insensibility, tremor, paralysis, and coma. Donders has proved that contraction of the vessels of the *pia mater* is caused by irritation of the sympathetic nerves of the neck. It is through this power of pro-

ducing contractibility that ergotine appears to act, not only as a poison, but as a curative agent. Its action is as well marked in health as in disease. It is claimed that where ergotine is injected in a vein, paralysis of the heart follows; when taken internally, in the form of alcoholic extract, it often causes colic. This can be readily obviated by combining it with conium. After all that has been said, some no doubt will claim that it resolves itself into a state of congestion, no matter what the disease is, and that unless there is an increased amount of blood, or a congested state, there is no use of giving ergotine. I suppose there are no two similar cases of cerebral hyperæmia; at least, having seen a large number of post mortem examinations of acute mania, with congestion, no two were in all respects alike. Taking the cases of insanity in which Dr. Browne has used ergot, we have confusion of thought, melancholy, headache, etc., but the difference in the symptoms of the various cases, does not constitute any ground for believing they are not all referable to a determination of blood to the head, as in each we have a throbbing of the arteries, often suffusion of the eyes, and headache. The suddenness of the paroxysms in insanity, and the rapidity with which they subside, would seem to indicate that there is congestion, though frequent attacks may ultimately produce organic changes. In cases of excitement or shock, whether it be in the form of mania or not, there often is dilatation of the cerebral blood-vessels, caused by a rush of blood to the head; these are proper cases for the use of ergotine. We owe most of our definite knowledge of the effects of ergotine on the nervous system to Brown-Sequard. He used it largely in most all diseases of the nervous system. In paraplegia and myelitis, we have a congestion of the spinal cord and melinges; in these cases he has found most beneficial results. Brown-Sequard says, (we condense his statements,) experiments upon animals have shown me, in the most positive manner, that ergot and belladonna are powerful excitants of unstriped muscular fibres, blood-vessels, etc.; both dilate the pupil, but each of them has more power in certain parts than the other; so we find belladonna

acting more than ergot on the blood-vessels of the iris, (which is the principal cause of dilatation of the pupil); on the blood-vessels of the breast, (which is the cause of the cessation of the secretion of milk); on the sphincter of the bladder, (which is the cause of its success in cases of nocturnal incontinence of urine). On the contrary, we find ergot acts more than belladonna on the muscular fibres of the womb, and on the blood-vessels of the cord, etc. The same author says he has seen the diminution in the calibre of the blood-vessels of the *pia mater* of the spinal cord, taking place in dogs, after they had taken large doses of ergot. He also observes that the reflex power of the spinal cord becomes very much diminished under the influence of this drug, which, in so doing, acts just in the opposite way to that of strychnia.

Taking what Brown Sequard has said, and our own experiments, we are able to say positively that ergotine reduces the calibre of blood-vessels, whether it be in paraplegia, with congestion, or in simple congestion of the cord, uncomplicated. We know of no medicine so appropriate, or likely to do so much good, as ergotine administered in large doses, three times a day. In cases of acute congestion and meningitis, with intense pain and heat, due to the distention of the blood-vessels, with a sense of fullness and throbbing, the patients complaining that their heads would burst, ergotine has been administered and continued during the acute stage. In a few instances the delirium lasted but a few hours, these symptoms subsided, and the patients made a good recovery. In these cases, we gave ergotine, from six to twelve grains daily, in divided doses of three grains each, and continued for about a week. From Brown-Sequard's observations, we notice he has given it in much smaller doses with very beneficial results. In chronic meningitis, with chronic insanity, where there are acute paroxysms, there is, almost constantly, intense pain and headache, and often soreness, on pressure, over the spinal cord and medulla oblongata. In congestion of the spinal cord, as well as in the meninges, (which is a very common disease among women, chiefly on account of the greater number of inductive causes,) it is wonderful to see

the rapidity of its action, and the amount of actual good obtained from its early and judicious use. If given at the commencement of the disease, we may entertain strong hopes for an ultimate favorable result.

In neuralgia, Dr. Woakes was among the first to use ergotine. He says, in his pointed way of explanation, that regarding shingles as more or less illustrative of all forms of neuralgia, he referred the rash, and pain in it, to the same cause, viz., effusion of *liquor sanguinis* from the ultimate branches of the artery, in the track in which the symptoms appear. Tracing this artery to the skin in one direction, the effusion from a papillary arterial twig was seen to occasion a spot of herpes upon the cuticular surface of the papilla; tracing it in the direction of the corresponding sentient nerve, the fluid effused from the nutrient twigs (*vasa nervorum*) supplying it, was found to occasion, by its mechanical disturbance of the sentient fibrillæ, the severe pain constituting the associated neuralgia. The cause of the effusion in such cases was referred to a temporary suspension of the regulating influence exercised over the minute arteries, by the sympathetic nerve fibres distributed to them. It was this suspended function that the ergotine was supposed to restore, and so to allow of the removal of the fluid from its pain-causing situation. He reports five cases: one of severe neuralgia following shingles; one of sciatica of four months' duration; one of hemicrania, and two of ordinary tic douloureux. In all these cases, he says, "cure resulted in from four to six days after the commencement of ergotine."

Dr. Browne, who has an extended experience of over six years with the use of ergot in the treatment of insanity, has found it useful in—1. Recurrent mania. 2. Chronic mania, with lucid intervals. 3. Epileptic mania. He has found it almost uniformly efficacious in reducing excitement, in shortening attacks, in widening the intervals between them, and, occasionally, in altogether preventing their recurrence. Dr. Browne fortifies his arguments by presenting a number of cases, in which its success cannot be denied.

There is probably no condition so annoying to the patient

as headache, and certainly it is the most common. In the following forms we have used ergotine with much benefit and comfort to the patient:

1. Headache, depending on plethora or fullness of blood.
2. Headache from anæmia.
3. Headaches, depending on changes in brain substance and the membrane.
4. Epileptic headaches.
5. Migraine.
6. Headache, depending on disordered menstruation.

The most common form of headache is the first, or that depending on a plethoric condition of the blood-vessels of the brain. Of course we cannot estimate correctly, the amount of pain endured at each sickness, but it depends largely upon the constitutional character and nervous susceptibility of the patient. In plethoric headaches, the course is either very short, (a few hours, at most,) or they last for some days; the pain is usually referable to the back of the head, and there is much throbbing of the temporal arteries. In this class of headaches, we have used ergotine largely; about one hundred patients have been prescribed for, and in almost every instance, relief was given in less than half an hour, and the attack thoroughly cut short.

In headache from an anæmic condition of the brain, the blood-vessels are usually lax, and as a consequence, there is a slowness of the circulation. Ergotine contracts the blood-vessels, thereby giving tone to the arterial system; the blood is forced more quickly and regularly through the brain, and of course in greater quantity.

Our cases of cerebral anæmia are comparatively few, and experiments are, therefore, limited; yet in those cases where we have had an opportunity of using it, happy results have followed.

In epileptic headaches, and in epilepsy, we have used ergot largely. In *petit mal*, there are muscular twitchings, congestion of the face, suffusion of the eyes, and a rush of blood to the head. We have, in many of these cases, been able to ward off *grand mal*, by large doses of ergotine. We have often

combined it with conium, and it seems in this combination to work even more satisfactorily than alone, which is chiefly due, we suppose, to the sedative effect of the conium.

In migraine, or sick headache, we have distended blood-vessels pressing on the ophthalmic division of the fifth nerve, thereby causing the pain; and if we accept this theory, then ergotine, by contracting the blood-vessels, will relieve the headache.

In headaches depending on some disordered condition of menstruation, we usually have a fullness or congestion of the cerebral vessels; sometimes, however, it may occur from anæmia of the brain. In both forms, the use of ergotine is beneficial. We present the following case, as being one full of interest, and showing, in the most positive manner, the good result obtained from ergotine.

Man, age twenty-six, of full plethoric habit. For about ten years previously, has had periodic attacks of headache, coming on in the afternoon of each day, about three o'clock, and lasting for about an hour or two. He described the pain as beginning in the frontal region, and rapidly extending to the occipital; the throbbing of the temporal arteries were both marked and prominent; almost all known remedies were tried, with only temporary relief. About four months ago, while suffering one of these intense paroxysms of pain, was given three grains of ergotine; in a very short time the pain was very much lessened. The day following, had another attack, and this time took six grains; in less than twenty minutes, all pain had subsided, and the patient said he felt much better than he did before he had any symptoms of the attack. From that time until the present, has continued to take two grains of ergotine, with one grain of quinine, before each meal. Our patient assures us that he has not had a return of the headache since the ergotine treatment was begun, and that his mind is more active, and his general health better than at any time in years past.

We have a large number of similar cases, in which similar beneficial result was obtained. We give a few conclusions

arrived at; many more might be presented, but we give only the more important.

1. Benefit of combination with bromide of potassium in epilepsy.

2. It is apt to produce cramps and pain in the stomach, which is remedied by combination with conium.

3. In nervous diseases, it soothes all renal irritation and catarrh of the bladder.

4. It dilates the pupil sufficiently to be noticed.

5. Increases both frequency and tension of the pulse.

6. Has no appreciable effect on the heat of the body.

7. In large doses, it produces the same effect as conium, by inducing sleep.

8. Its beneficial action in delirium tremens, after bromide of potassium has failed.

9. It combines readily in form of pill, with sulphate of quinine.

10. It is a cerebral sedative.

11. Ergotine possesses an advantage over the alcoholic extract, in not producing any pain or cramp in the stomach, and is given in less quantity.

12. Ergot is not likely to be adulterated, and we always secure an appreciable effect after its administration.

Not only nervous sedatives are of greatest advantage in insanity, but also *Arterial Sedatives* have been of service, particularly such as diminish the action of the heart.

Digitalis and *Aconite* are the most frequently used drugs in that line; occasionally, *veratrum viride*.

Digitalis.—Where heart disease increases the force and frequency of the pulse, this drug has done good service in insanity, particularly melancholia, but its action has only a palliative effect.

Unfortunately, the effect of *digitalis* is also dangerous, being accumulative. When the pulse comes to be intermittent, it should be stopped, or alternated for a week or two with *aconite*, for and with the same object. *Aconite* is also useful in rheumatic attacks, particularly of the heart. All cases of delirium, of malarial origin, can have *veratrum viride*

as an arterial sedative, given in conjunction with some other well indicated medicine.

It is now considered to be a rule, that *depletion* should be avoided as much as possible in insanity.

Bleeding has, therefore, become obsolete, and *tartar emetic*, at one time so much praised, has fallen almost entirely into disuse, being only occasionally given, in small doses, as an alterative.

Mercury, particularly calomel, unless the latter be given to correct bilious attacks of the digestive organs, has also fallen into malfavor. In chronic cases of mania, with sores and pains, the consequence of a venereal taint, I have seen the biniodide of mercury do good.

Counter irritation is at present not much resorted to. Dr. Bucknill believes croton oil, as a derivative upon the scalp of patients, where the acute passes into chronic mania, to be very useful.

Of the *stimulants* and *tonics*, "*Cinchona*" and its alkaloid, "*Sulphate of Quinia*," among the metallic, iron, are the principal. The quinine is, in England and France, often given in combination with wine, or some other alcoholic stimulant. In the United States, the fermented liquors are frequently given to debilitated patients.

The syrup of iodide of iron, to those affected with tuberculosis, has given much relief.

Baths.—Tepid and warm, when administered for one to three hours, have a sedative influence, and often allay excitement. Sometimes a short, cool shower bath, followed immediately by a warm one, is efficient. Sleep is often produced by the administration of a bath, particularly when mustard is added, so as to produce a slight glow upon the skin. *Electricity* is occasionally very useful in hemi or paraplegia.

Other drugs can be and are used, the liberty of dispensing medicines allowing it. Those mentioned are the ones most frequently administered, and others not mentioned, when well indicated for special cases, can often be usefully combined with the well known sedatives.

Before closing, allow me to draw your attention to the

necessity of well examining your patient at the commencement of the disease, because, in that stage, you have to use the greatest care in the selection of a remedy; further, in cases of insane diathesis, your keen, discriminating judgment in the selection of the proper and best adapted remedy may, by its *Prophylactic* influence, save a being from the greatest affliction humanity is heir to.

MISCELLANY.

From the transactions of the Pennsylvania State Medical Society for 1878, we learn that Dr. L. Turnbull has been experimenting with the new anæsthetic Hydrobromic Ether. In its action upon man "it differs from ordinary ether in the stage of excitement being short, the sedation and subsequent elimination rapid." In ten cases, the shortest time required to bring the patient under its influence was thirty seconds, the longest time being only four minutes. The patients were not kept long enough under anæsthesia for us to form much of an idea as to its safety, the average time under its influence in these cases being only two minutes. But from the fact that notwithstanding the brevity of the anæsthesia, vomiting occurred in three of the cases, it is not likely that it will supersede sulphuric ether in general practice.

In the same volume an interesting history is recorded of a case of dislocation of the hip, complicated with fracture the femur, by Dr. T. B. Murdoch. The limb presented the ordinary evidences of fracture at the upper third of the femur. It was further noticed that the upper fragment was drawn more firmly up and was more fixed than is usual in this form of injury. Nevertheless, the dislocation was over-

looked and the case treated as a simple fracture. No union took place, and the patient after consulting many surgeons, submitted to the operation of resection, a year after the original injury. He died with moderate promptness (eight days after the operation) and the *post mortem* examination disclosed a dislocation of the head of the femur downwards so that it rested on the ischium below the lip of the acetabulum. The literature of the subject is scanty, but the reporter is of the opinion that the unusual immobility of the upper fragment should have led to an *ante mortem* diagnosis in this case, and will in future prove to be a valuable symptom of this rare complication.

Occasionally references may be seen in journals of the period, to the metric system, and especially to the "metric system in a nut shell." This is doubtless the best place for it. Placed in the pea-nut shell, it would prove a fruitful source of indigestion to innumerable small boys, and greatly increase the business of the profession. But let us welcome it as we do other epidemics, secretly, while we outwardly lament its ravages and show how it could have been prevented.

Why is a youthful resident of China like a painless death? Because he is a youth in Asia, (euthanasia). See?

The folks in Maine having prohibited intemperance in drink are now reaching out after the other vices. In the last volume of the Transactions of the Maine Medical Association, the principal articles are the annual oration on the duties of the medical profession concerning prostitution, by Dr. Gerrish, and an essay on "the eradication of syphilis and crime by the extirpation in that class of the procreative power," by Dr. G. F. French. The conclusions of the first writer are that prostitution should not be regulated, but that humanity should be gradually educated up to the point of

total abstinence from the sexual act except for purposes of reproduction, which is important if true. The second article is so remarkable that we do not hesitate to reprint it in full :

No disease is begirt with greater horrors or followed by more baleful consequences to the individual and the race than syphilis ; and no disease entails so deadly a blight on posterity. Few physicians, even, seem to be aware of the extent to which this disease prevails in the world as shown by statistics ; and yet these figures, appalling as they are, do not embody one-half the truth ; for the poor in hospitals are not alone infected, but every grade of society, from the hovel to the palace ; there is no respect of persons or character ; the unborn babe and the guilty criminal faring alike.

To willfully contract a disease which may disfigure your face, rot your bones, and put out your eyes, is actually praiseworthy compared with the crime of polluting the springs of life in your children and your race, starting from the shore of time a wave of disease which shall surge over the broad sea of humanity toward eternity, rendering the strong weak, the beautiful hideous, the innocent vicious, the happy miserable.

There is good reason to fear that syphilis is on the increase.

According to a scholarly computation as to the prevalence of syphilis, by Dr. F. R. Sturgis, in the city of New York, for the year 1873, out of a population of 942,000 there are 61,000 suffering with some form of venereal disease, of which 50,000 are syphilitics, and these figures, he believes, fall short of the actual number.

It is estimated that in London over a hundred thousand venereal cases are treated annually in the hospitals alone.

Prof. Gross says, " Out of a population of 40,000,000, the present number of inhabitants in this country, it is safe to assert that nearly 2,000,000 are at this moment infected with the syphilitic virus."

Unquestionably, there is a vast amount of syphilis under other names. The disease becomes modified and disguised, after transmission through one or two generations, to such an extent as to lose its characteristic features ; and I have no doubt of the correctness of Prof. Gross's opinion in considering almost all the protean forms of scrofula as but manifestations of remote syphilitic taint ; and, when you reflect that much scrofula and tubercle are identical, the extent of the evil can be more fully comprehended. Those who do not admit the identity of syphilis and scrofula, acknowledge that strumous diseases are largely fed from that source. Barwell says : " Three-fourths of the community have the seeds of some form of scrofula ; and Sir William Jenner affirms that the scrofulous diathesis is very largely the determining cause of infantile mortality. Of the mortality arising from syphilis we can form no adequate estimate. Comparatively few die in the primary stage of the disease ; and, even

when it does prove fatal in the secondary or tertiary period, the disease appears under an assumed name or euphemistic title. It would, therefore, be a great mistake to estimate syphilitic mortality from the records of venereal wards alone. To compute this fairly, we must take into consideration all the various forms of curable disease which become unmanageable from the effects or co-existence of syphilis. In the Sandwich Islands, in less than a century, the population has been reduced by this disease nearly seventy-five per cent. The infant mortality from syphilis is something appalling. According to the statistics of Dr. F. R. Sturgis, in Philadelphia and New York eighty per cent. of all the children dying under five years of age is due to this disease; while "the number of abortions and miscarriages," says Prof. Gross, "occasioned by the syphilitic poison is incalculable." But those who die early fare much better, and do less harm to society, than those who prolong their own miserable existence and entail feebleness of mind and body on succeeding generations.

But can nothing be done by us to stay this gigantic evil? It is almost as old as sin, and yet, after all our efforts to suppress it, in this nineteenth century it is more formidable than ever; which proves that no measures yet resorted to have been effectual.

The plan herein proposed assumes the fact of the hereditary transmission of syphilis under the form not only of bodily disease but of moral infirmity, and makes it criminal for a syphilitic to have offspring. No one can question the justice of this requirement. Syphilis is already a ground for divorce, and should also be a legal impediment to marriage. The consequences of such a union to the offspring and the race are so disastrous it is no injustice to brand the act as a crime; if it be a crime it should have a corresponding penalty, and one which shall most effectually prevent the commission of the crime. The penalty which I advocate affects only the criminal, who, from being a criminal, should have no voice on the question. Is it cruel or unjust to wrest from the syphilitic or the leper the right to propagate the species? Has society no counter-rights to urge in behalf of the race? Can one be allowed the exercise of personal liberty which militates with the good of the entire race of man?

But why do I say that this mutilation concerns only the criminal? Because any human being who is willing to propagate disease or crime is in a criminal state of mind. To have syphilis or leprosy is no crime in itself, for the disease may be hereditary, or acquired without blame; but it is criminal to be willing to perpetuate these maladies. Obviously, this is the only effectual way of extinguishing syphilis and leprosy—twin monsters in pathology, of one family and the same origin.

Crime is a prolific cause of disease, and disease, in turn, is often a source of crime; they are mutual allies, each reinforcing and intensifying the other. The offenses for which a criminal is punished, not even excepting murder, are less damaging to society than the power to propagate his

kind. Criminals, as a class, are so full of disease, that if the extinction of the procreative power, in addition to imprisonment for life, could be made a substitute for capital punishment, a vast amount of syphilis and other forms of disease would die out with the individual; and the penalty would exert a more powerful influence to deter mankind from evil-doing than any motive yet furnished by religion or the law. Then pardoned criminals, let loose on society after a brief imprisonment, would no longer multiply their species and entail their vices.

In the justly celebrated little book of Mr. Dugdale, entitled "The Jukes," or "A Study in Crime, Pauperism, Disease, and Heridity," we have, summed up, the social damage inflicted on society by a single criminal family in the State of New York, during a period of seventy-five years :

Total number of persons	1,200
Number of pauperized adults.....	280
Number of criminals and offenders.....	140
Number of arrests and trials	250
Number of habitual thieves	60
Number of lives sacrificed by murder	7
Number of common prostitutes	50

Forty of whom have syphilis. On an average, each woman will contaminate ten men, aggregating four hundred men infected, forty of whom spread syphilis through their families; in consequence of which three hundred of their children died prematurely, entailing a loss of over a million and a quarter, "without taking into account the entailment of pauperism and crime of the survivors in succeeding generations, and the incurable disease, idiocy and insanity growing out of this debauchery, and reaching further than we can calculate."

Our present system of punitive law looks more to the efficient protection of society than to any expectation of reforming the criminal; and this is wise, for habitual criminals, like lepers, are a degenerate stock, morally and physically, which should be permitted to become extinct. Assuming the moral reform of the criminal to be possible, society has a right to protest against the propagation of his diseases, and, if he is not diseased, to protect itself by preventing the perpetuation of a criminal breed of human beings.

In view of the wide-spread dissemination of incurable disease throughout society, and the fact that all sanitary and legislative means hitherto employed to repress syphilis have proved ineffectual, more radical measures would seem to be demanded, in order to avert the deterioration of our race. And the method here recommended will not only efficiently protect society, but conduce to the moral and physical improvement of the criminal, in whom the sexual instincts often constitute the most powerful incentive to crime as well as the most serious hindrance to reformation. Propagated disease often appears as idiocy in the offspring, and

there is no greater obstacle to ameliorating the condition of idiots than the difficulty of controlling their sexual instincts, the indulgence of which serves only to establish and aggravate their imbecility. In such cases we can only hope to promote their physical well-being, but never to make them useful members of society. Bereft, as they often are, of moral responsibility, society should rescue them from the clutches of lust and ward off the multiplication of idiots and imbeciles. It is a duty which it owes alike to itself and the idiot.

Prostitution in woman is the counterpart of crime in man; and, when it is practiced by one who is infected with contagious disease, it is legitimate for the State to take cognizance of it and affix a penalty. In conformity with the suggestions of J. Marion Sims, such cases should come under the jurisdiction of a State Board of Health, like every other contagious disease. The physician should co-operate with the health board to quarantine all infected houses as religiously as the plague. The certainty of this being done would insure a greater degree of watchfulness against the disease than is secured by any existing system of legislative supervision; for it is in the interest of the brothel-keeper and the prostitute to guard against the interruption of their business by an officer of the law. Supplementary to existing laws, a woman infected with syphilis convicted of prostitution should be spayed, which would not only prevent such a one from becoming the mother of harlots and criminals like "Margaret" in Dugdale's "Jukes," but would multiply the precautions against disease by adding a new terror to the consequence of it; and, not to make any invidious distinction on account of sex, every syphilitic or leper, married or single, should be interdicted from sexual cohabitation under no less penalty than the deprivation of the procreative power. Under existing law, it is optional for married syphilitics to live together or separate, but the continuance of the marriage relation under such disabilities should be regarded as a crime; and I believe the time will come when it will be considered an outrage against society, and a heinous sin, for a person tainted with any grave transmissible disease to enter upon the marriage relation.

In the *Louisville Medical News* for November 9th—and the *News*, by the way, is one of the most refreshing oases in the arid waste of medical journalism—there occurs a most unfounded calumny concerning one or more distinguished members of our profession. A contributor, discoursing of yellow fever, says: "They were not our common malarial fever; they were not true pictures of the pernicious form; but take Flint and other writers, and how strikingly do they resemble yellow fever!" There may be pestilential writers who

do resemble this dread disease, but having seen Prof. Flint quite closely, though not, indeed, taken him, we feel bound to clear him from this charge. His portly form, ruddy hue, and open countenance may suggest some honest, sthenic inflammation, but not the crouching, stilleto-bearing fever of the tropics.

Recent observations show that tincture of iodine is as efficacious as quinine in the treatment of malarial disease. The dose is, on an average, ten drops, in water, four times a day.

What we specially admire in the metric system is its accuracy, and this is no doubt the reason why the *Michigan Medical News* thinks that ignorance concerning it is culpable. This feature is beautifully exhibited in a double prescription, given by the brilliant journal aforesaid, and admiringly copied into *Bernacki's Advertising Gazeteer*:

R.	Quiniæ Sulph.,	grs. xxx	1	80
	Acidi Sulphurici dil,	3iss	6	00
	Ferri Sulphatis,	3ss	2	00
M.	Aq. Fort,	3iij	96	00

It is possible that this may have been incorrectly copied from the *News*, which does not alter the fact that those who intemperately and bigotedly thrust the metric system upon us, should first pluck the beam from their own eyes. The inaccuracy of the grain standard may be very dreadful, but it is scarcely possible that aquafortis is less dangerous, when prescribed in grammes instead of ounces. Also, this prescription introduces a new arithmetic, thus: gr. xxx = 1.80; 3ss = 2.00. But, gr. xxx = 3ss; therefore, 1.80 = 2.00. How accurate!

The address of Prof. Conner, of Cincinnati, on "What Is, and What Ought to Be," delivered November 7, 1878, is worthy of the most extended circulation and support. Although it is a pity to mutilate it, we have space only for the following extract:

So long as the procuring of subjects involves violation of law and exposure of life, the history of the future will be as the history of the past,

and the history of the past has proven that those who make it a business to procure bodies will regard simply their own interests, will go anywhere, will take anything, and will recompense themselves for difficulty and danger by increased charges. No college authorities ever have, ever can, exercise such control over and supervision of resurrectionists as to know where every subject comes from. To have such knowledge, they must themselves procure their own material, and this they are not going to do. They must be exposed to the risk of involvement in difficulties and liability to censure, but they can not and do not know the previous history of the subjects placed upon the dissecting tables. Knox was as ignorant as a new-born babe of the way in which Burke was manufacturing his material, and no man in the Faculty of the Medical College of Ohio knew, or for a moment imagined that the body of a distinguished citizen was to be or had been brought to the college, until it was found there. Yet, while this is true, it is simple cant for any unco guid to say, "Before we would invade the sanctity of rural cemeteries, we would close our doors." Their doors will not be closed; at least, not for *that* reason. All along through the history of medicine during the last three hundred and fifty years, we find records of obloquy heaped upon anatomists, of personal violence inflicted upon them, of destruction by mobs of their private residences, and the college buildings in which they worked. In our own country, the first regular teacher of anatomy, Dr. Shippen, of Philadelphia, had his house mobbed in 1765, and not very long afterward, there occurred the anatomy riot in New York. As successively the continent, Great Britain, and our own country, from the east westward, have become more civilized, lawless interferences with and legal obstructions to dissections have become less and less frequent, and superstitious reverence for the dead has yielded place to an enlightened regard for the living. Sensational newspaper items, written to make the paper sell, and Antonian orations over suppositious clothing, delivered to excite the rabble, are all well enough in their way, and not to be complained of; they are indices of the height to which a community or a nation has risen upon the scale of advancement, fruits by which it is to be known, or conditions, if you please, incident to a state of fermentation that must be gone through with before the wine can become fit for use, to say nothing of becoming rare and old. The time must come, ought to be here now, when legislative enactment will in Ohio, as in Massachusetts, New Hampshire, New York, and Pennsylvania, secure the giving up, upon proper demand, without question, quibble, or delay, of the bodies of paupers having for any reason to be buried at the public expense. Thus, and thus only, can the needs of medical instruction be met, and the feelings and interests of all classes in the community be protected and preserved. Given such a law, and medical students could duly learn what they ought to know, (and this includes the performance of surgical operations, as well as ordinary dissections,) and grave-robbing would be at an end. Whatever may be said, *ad captandum vulgus*, there is no wrong, no injustice, in de-

manding that charity patients shall add to the sum of human knowledge in life and in death, and be instrumental in advancing the material interests of the State that cares for them when they cannot care for themselves. It is the least return they can make for the protection and assistance rendered them. As things are now, there is just at this present time as much risk in taking, and as much ado about having, the body of the most wretched pauper, or the vilest criminal, as that of the most respected citizen. In the passage of such acts as have been referred to, none will rejoice more heartily than those connected with medical teaching. If public sentiment will not permit of it, then let public sentiment be a consistent one, and let the community be content with doctors who have no practical knowledge of anatomy, and accepting the consequences, talk no more of malpractice. If it can stand such a state of things, certainly we can. All officially connected with medical colleges would then be happy; anatomical teachers would be relieved of nearly all, perhaps all, of the annoyances and vexations now attendant upon the discharge of their duties; students would have less to do and less to learn—and they probably would not feel such to be a hardship, especially as they would no longer be subjected to the present very positive liability to the development of serious disease, and the reception of wounds of most dangerous character. The laity only would be the sufferers; for I am very sure that so long as the present generation of medical men live, qualified practitioners can be found to look after each other and each other's families. Unfortunately, the damage would result to all of the laity, the wise as well as the foolish; for there are men and women in the community, and a good many of them, too, who know the necessity of practical individual study of anatomy, and know what is necessary therefor, and who have no disposition to join in such hue and cry as has of late been raised. But one source of obtaining anatomical supplies has not been referred to. We have lately heard the cry repeated again and again, as though it were either wise or witty, "let the doctors give up their own bodies." For myself, personally, I have not the slightest objection. I had infinitely rather that my body should contribute to the instruction of even the most bungling first-course student, than have it go to the nutrition of worms. Nothing that I ever saw in any dissecting room had to me the thousandth part of the repulsiveness of a four weeks buried body. Horror of being cut up. It is nothing compared with that of rotting like a dog. I had far rather have the satisfaction of looking upon my father's skeleton, properly prepared, than my present thoughts of the changes that have taken place in that body since it was laid away in Spring Grove. But, perhaps, others among the medical men of the country may not have the same feelings as I have. I know of no good reason, then, why they should contribute their bodies to promote the welfare of people who are only too ready to slander and abuse them.

How to Kill a Tape Worm in an Hour.—"Kousso and kam-eela are expensive drugs, nauseous to the taste, not always effectual, and requiring several days to effect the death of the worm. Dr. Karl Bettelheim, of Vienna, narrates in the *Deutsches Archiv*, a heroic method, and nearly sure in the short space of time of three-quarters of an hour to two hours. It is this: he inserts a tube in the œsophagus to the stomach, and pours down from two hundred to four hundred grammes of a very concentrated decoction of pomegranate root, having previously had his patient fast for twenty-four hours. The worm is stupefied and passed, head and all, to a certainty; the patient has no sickness of the stomach, and no nauseous vomiting; and the drug is cheap."—[*The Doctor*, Nov. 1. 1878.

Sun and Air Baths.—The following, written by C. H. Merri-
 cker, M.D., of Canyonville, Oregon, we find in the *Medical
 and Surgical Reporter* of December 14, 1878: I remember read-
 ing an editorial in the *Medical and Surgical Reporter*, in which
 the idea was advanced that the prominent feature of medical
 knowledge and practice, in the near future, would be directed
 to the prevention rather than the cure of disease. The
 thought is a good one, and truthfully reflects the sentiment
 which actuates every genuine member of our noble profes-
 sion. We have been told a thousand times by the great
 lights in the profession, and the sentiment finds a welcome
 in the heart of every honest physician, that it is as much our
 mission to prevent disease, as it is our duty to cure its unfor-
 tunate victims.

Many years ago, my attention was drawn to the wonderful
 capabilities and functions of the human skin; its power of
 enduring heat and cold; its condition and office as regards
 the cause and cure of many of our common diseases. Sea
 captains have related how the natives of the tropical islands
 would lie around in almost a nude condition, on the decks of
 vessels, with the sun's rays pouring down so hot as to melt
 the tar from the planks, yet appear not the least oppressed
 by the heat. Dana, in his "Three Years Before the Mast,"
 speaks of sailors dashing cold water over their naked bodies

in air below the freezing point, while doubling Cape Horn. Thousands of similar facts might be mentioned. Medical literature abounds with references to the skin, and the effect which light, air, and temperature, applied directly to the surface of the body, has upon health and disease. Sun baths are not a feature of recent medicine. Dr. Coventry says: "The sun's rays are indispensable to prevent the inception and progress of tuberculosis." (*Trans. New York Medical Society*, 1855.)

I might fill many pages of your journal with quotations of a similar character, but my object is not to argue a point about which there is but little difference of opinion. Facts are of more importance, and in hopes of leading medical men to use, oftener than they do, the power of light and air in the treatment of various diseases, I shall give my limited experience with this branch of therapeutics.

CASE 1.—Telegraph operator; aged twenty-five; thin in person; suffers with cold hands and feet, especially after going to bed. Cough frequent, but not distressing. Constantly "taking cold;" otherwise general health good. Read to him portions of Dr. C. R. Agnew's lecture on Otitis. "How may you and I learn to endure drafts, and lessen our tendency to catch cold? By diminishing the morbid sensibility of the surface of the body. This can be brought about by graduated exposure and friction of the skin in a daily air or sun bath, followed by such local sponge baths as you may be able to speedily react from. It is well, at first, in the air bath, to expose the body for a very short time only, such as would be spent in walking briskly across an ordinary bed-chamber. After a little practice, the length of the exposure may be increased. The salutary effect of this exposure may be still further increased by two or three deep, chest-filling inspirations, with closed mouth, and by a few such movements of the arms as would tend to invigorate the chest muscles and quicken the action of the heart. The entire surface of the body should be rubbed briskly, with hair mittens, until there shall have been produced a sense of glow and warmth of the skin. Under all circumstances, it would be better to

use a sunny room. Of course, imprudence in exposing the untempered nervous system of the skin for too long a time to a low temperature, would defeat the grand purpose of the training, and bring the method into contempt. Invalids should enter upon it deliberately and continuously." (*Clinical Lectures*, Seguin, p. 138.)

The patient was pleased with my prescription, and although in mid-winter, commenced "taking it." After a lapse of four months, he wrote to me: "Cough all gone; hands and feet warm; gained six pounds in flesh, and, as telegraph operators say, everything is O. K. When I hear persons say they have a cold, I laugh at them, and tell them they ought to be ashamed of themselves for having a cold when they can prevent it."

I should have mentioned that the first ingredient in my prescriptions of air and sun baths, is the requirement that patients shall not sleep in the clothes worn during the day, and in no case must the exposure of the body to air or water be continued so as to produce chilliness and discomfort. I omit here all details as to good ventilation in sleeping rooms, diet, regularity of the bowels, etc.

CASE 2.—Merchant; aged thirty-five; annoyed with rheumatism, constipation, and sleeplessness. No cough, except when having "a cold," which is pretty often. Sometimes for a whole week, will not sleep more than one or two hours out of every twenty-four. Prescribed drugs and change of diet for constipation; air baths and frictions to the whole surface of the body; hot water baths once or twice a week. Three months after commencing treatment, patient reported every symptom much better; can sleep from six to eight hours every night; rheumatic pain in the back all gone; coughs some occasionally, but not worth noticing.

CASE 3.—Unmarried lady; nineteen years old; tall, but in fair condition as to flesh; has coughed at night for two years; troubled with nasal catarrh, sore throat, and a constant tendency to "take cold." Has taken gallons of patent medicines, to ward off consumption, of which disease she has a horror. Some soreness under the clavicles, as she complains of being

hurt when I use moderate percussion. Bowels and uterine functions regular and natural.

I gave her a lecture upon the skin and how it should be treated. She thought it was not possible for her to wear flannel under-clothing, as it "irritated the flesh so;" but after a few weeks of trial, she subdued that sensitiveness of the skin. She writes: "Father had a bay-window built to my bed-room, facing to the east, and now, every morning, when the sun's warm rays come over the eastern hills, they find me ready to receive their health-giving influence. I am surprised at the pleasure and benefit I receive from daily sun and air baths; sun and air in the morning, air at night; for I must tell you that I sometimes sit and write or read two or three hours before going to bed, clothed only with a loose robe, made of common mosquito bar netting, to keep the flies from annoying me. My friends, as well as I, are delighted with the improvement in my general health. The frictions to my chest, with gentle filipping over and under the collar bones, and especially the trapezium exercise, has removed all soreness from my lungs and developed the muscles of my arms and shoulders very much."

I should have mentioned that I directed this patient, as well as some of my male patients, to fix a swinging-bar in her bed-room, and when she wished to stretch or yawn, to catch the bar with her hands and support her body for a few seconds, free from the floor.

I have a number of other cases I might report, but to save space I will condense them into a few general statements. Another young lady, annoyed with obesity, declares that she has reduced her weight fifteen pounds in six months, by daily frictions to the whole surface, in the cool air of her room. She uses dry towels and her bare hands, in preference to woollen mittens or hair brushes. She remarks that my prescription is far better than the "Anti-Fat" humbug. Physicians will see nothing unreasonable in the statement that air baths in one case increase the quantity of flesh, and reduce it in another, as paucity of flesh and obesity are both departures from a normal, healthy condition.

A gentleman, forty years of age, writes that he is surprised to think that he has lived to be of that age without experiencing the luxury of air baths. His neuralgia has left him entirely, and what seems to please him as much as any feature of the "cure," is the restoration of virility, a partial loss of which seemed to affect his mind unfavorably. To the profession, I here remark, that in addition to the reading of Agnew's lecture to him, I gave him a good dose from Acton on the "Reproductive Organs."

I am watching a case of asthma, of ten years' duration; the patient, a clerk in a county office. Latest report indicates a decided improvement in all the symptoms. The patient is enthusiastic in his praise of air baths. "Every day I long for the evening to come, when I can bolt myself in my room and read and write for hours, without even a fig-leaf to prevent free contact of air with my skin." I have heard that John Quincy Adams attributed his vigorous health to the daily practice of passing an hour or more in his room, divested of all clothing. I believe it.

In conclusion, I notice an idea which, no doubt, has already arisen in the minds of my readers, namely, the difficulty of putting the air and sun bath cure into practice. Laboring men and women can not give the time often necessary to harden the skin against the tendency to take cold. Our houses are not well arranged for such daily exposure of the body as is necessary. To such objections, I reply that if life and health are worth preserving, and if this system of baths adds materially to the restoration and preservation, then, "where there is a will there is a way," and some expedient will be resorted to in order to reap its benefit.

Malpractice Suits in Maine.—Through the courtesy of its author, we have lately received a "Report on Malpractice, a paper read before the Maine Medical Association, June 12, 1878, by Eugene F. Sanger, A.M. M.D." From this report it appears that "one hundred and twenty-five out of six hundred of the physicians of this State (Maine) have been pros-

ecuted within the last generation. It is safe to conclude that there is not a physician of large practice in Maine who has not been obliged to remit his bill, or make some other concession to escape suit." The whole amount sued for was \$423,640.00; judgment was given against nine defendants, the damages aggregating \$6,253: (Amputation of thigh, \$2,000; fracture and amputation at wrist, \$300; fracture of wrist, gangrene and reamputation of arm, \$1,200; fracture of arm, gangrene and amputation, \$1,000; fracture of thigh, \$600; fracture of tibia into the knee-joint, \$400; dislocation of elbow, \$250; fracture of thigh, \$103; fracture of leg, \$400.)

There were, in addition, nine settlements: (vesico-vaginal fistula following labor, \$300; intra-capsular fracture of thigh, \$350; fracture of elecranon, \$100; fracture of wrist, \$350; fracture of neck of scapula, \$125; fracture of neck of femur, \$25; two fractured legs, each \$300; dislocation of hip, \$100.) "In the cases which resulted in acquittal, disagreement, or were never brought to trial, sixty-one surgeons paid out more than \$43,000, which, with court and other expenses, aggregate more than \$100,000 wasted in speculative litigation. All but three or four were groundless actions, and would not have been brought if our State law did not actually offer a premium on malpractice suits. * * * The class of cases prosecuted were of the most aggravating and dangerous character; congenital deformities, irremedial accidents, and incurable diseases, from which patients did not expect complete restoration, but were satisfied with relief from suffering and natural results, until tempted into prosecutions which would cost them nothing, but, if successful, would pay handsomely from the hard earnings of the physician, whom the law presumes to be the pension bureau of all human ills. * * *

The largest verdict for damages in alleged malpractice, was in the case of Dr. John Grover, of Bethel, amounting, with court costs, to \$2,500, for 'an error of judgment in not removing more of the limb,' the moral of which is, in sawing off a leg, saw it off short. * * *

The nine plaintiffs who settled, eight of the nine who were awarded damages, and all but eight of those whose suits failed, were worthless. Out of

seventy prosecutions, the plaintiffs in sixty-one of them were unable to pay taxable costs, and very many were shiftless and dissipated. Only one in eight got a verdict." In view of these facts, and the detailed accounts of a number of cases that are given in the "Report," we think Dr. Sanger is fully justified in saying for the Maine surgeons, "either we must give up surgery entirely, or select among reliable patients, cases which promise favorable results. The poor are a prolific source of malpractice suits, and, so long as attorneys go unpunished for their blackmail attacks upon us, we must leave the afflicted poor, as barbaric tribes do, to perish by the wayside, and for the towns and cities to take care of." The Society, after the reading of Dr. Sanger's paper, "*Resolved*, That with the existing State laws on civil malpractice, it is unsafe to practice surgery among the poor." The remedy for the evil lay, in the judgment of the reporter and of the Society, in compelling every one who brought suit for malpractice, to "give bonds for the taxable costs in case of defeat;" believing, and we think very correctly, that "if a man had a good case, there would be no trouble in getting bondsmen, if he *were* poor." In this State, as well as in Maine, the plaintiffs in these malpractice suits should be compelled by law to at least give bonds for payment of costs, if the verdicts be against them. Fortunately in Ohio, things, bad as they are, are not quite as bad as they seem to be "down East" in Maine and New Hampshire. The special reason for the interest that Dr. Sanger, of Bangor, has taken in these suits, is the fact that after having "escaped prosecution for twenty-three years of hospital and private, civil and military practice," he has lately been twice sued. Once it was "for \$7,000, because I cut the *sheath* of the tendon in tenotomy of the tendo Achillis, spilt a few drops of blood, discontinued my visits, and used the improved Scarpa shoe. The prosecution claimed that I should have adopted the Barwell and Sayre theory of paralysis of the peroneal muscles, used Sayre's shoe with rubber tubing, electricity, and made repeated visits." The second time, \$12,000 damages was wanted because the Doctor had given "free vent to a burrowing abscess in the

immediate vicinity of a scrofulous knee-joint." In both cases the verdict was in the Doctor's favor, but he nevertheless had to pay about \$2,000 in defending himself for, as he says, "two of the simplest acts of surgery, for which I received ninety cents pay." We congratulate the Doctor, (whom we remember as an accomplished officer in the Gulf Department, "in the days when we went gypsying, long time ago,") upon not having to pay out any more, but can't help feeling a little as if it served him right for doing so much for such very, very little pay. His "Report" is certainly a valuable addition to our scanty literature upon the subject of Medical and Surgical Malpractice.—[*Cincinnati Lancet and Clinic*.

CORRESPONDENCE.

NEW YORK, December 1, 1878.

MY DEAR DOCTOR:—Rapid transit, for which the people of this city have been clamoring for many years past, is at last an accomplished fact. We have now three elevated railroads in this city, the trains of which run from Central Park to the Battery on Sixth and Ninth avenues, and from Sixty-seventh street to the South ferry, on the Third avenue line. As a sanitary improvement, the value of these modes of quick locomotion can hardly be estimated in figures, since it gives our tenement-house population opportunities to reside in the healthful regions of the upper part of the island, and the means now provided for rapid transit by the steam cars running over the elevated roads enables our laboring classes, employed in the lower portions of the city, to reach their places of business twice as quick, at least, as was formerly the case in the slow, tedious, and ill-ventilated horse-cars. But strange as it may seem, every innovation, every new idea, every im-

provement, meets, at first, a certain opposition. So, for instance, at the beginning of this century, when Fulton first ran his steamboat on the Hudson River, he met with such opposition from the people of this, his native State, that the Legislature passed a law prohibiting this infernal machine—meaning the steamboat—from being used for the transportation of human beings, since it was feared that the steam boilers might explode, and thus cause the premature death of those who were on board of this frail craft! The incredulity, and the consequent ridicule with which the first proposition for the telegraph and its usefulness were met with, may be cited as a second illustration of this proposition, that useful inventions are at first only comprehended by a few, and, in time, what seemed ridiculous and impracticable, becomes, after a while, a boon to humanity. Would you and your esteemed readers believe it, that even a number of physicians at first denounced our elevated railroads as nuisances that would cause insomnia, mania, epilepsy, and all the train of nervous symptoms to which human flesh is liable, because, forsooth, the cars caused some noise that was a little disagreeable to over-sensitive ears! But still, a number of distinguished medical practitioners—many of whom, I am proud to say, are personal friends of mine—in this city, gave certificates, and appended their signatures thereto, making the above statements regarding the unhealthfulness of these elevated roads! Strange as it may seem, however, still it is a matter of fact, which can be verified by reference to the statistics of the New York Board of Health, that since the running of the steam cars over the elevated railroads in this city, the mortality has considerably decreased, if compared with the corresponding periods of time of former years. This may be a mere coincidence, but it goes to prove that the fears entertained by the signers of the documents above alluded to, have been in error in assuming that the elevated roads would have a deleterious effect upon the inhabitants along the lines where they have been built. Over one of these lines—the Third avenue—over fifty thousand persons are being transported daily. By the first of December, these cars

will run as far as the Harlem River, as the *Herald* states in to-day's issue.

I have thought proper to refer to this, our latest sanitary improvement, leaving out of the consideration its financial value to our community at large, with the exception, perhaps, of a few house-owners along the line, whose real estate it, in some instances, may have depreciated somewhat. People riding over the elevated roads will not suffer from dangerous draughts of cold air, as is the case in the horse cars—the former being heated by steam during the winter. In the summer time, it will enable the mothers of babes suffering from summer complaint to take them in the country, for a few cents only, where they will find pure air and fresh milk, and thus the elevated railroads will be a boon to the community in a sanitary point of view, saving many lives that would otherwise have been lost.

There is nothing that will bring discredit more quickly upon the medical practitioner than the giving of a hasty opinion regarding medico-legal matters, without sufficient facts to prove its correctness. A judge, in a court of justice, after hearing both parties to a lawsuit, will well weigh the evidence pro and contra, and then he usually takes the papers and reserves his decision. Why not follow the same principle in giving medical opinions? Opinions seeming plausible to-day are often disproved to-morrow, but facts and truths stand forever, and do not undergo changes. Take, for instance, the celebrated Vanderbilt will case; how conflicting the medical testimony regarding the sanity of the rich testator has been. One expert believes him to have been sane when he made his will, the other gives an opposite opinion. Now, the man was either sane or he was insane at the time in question. Why should we not have a clear definition of what constitutes insanity? and not give our individual impression or idea about what constitutes insanity. Analyze the pathological changes found in post mortem; take into account the action, the demeanor of a person thought to be insane, and there will be something positive to base a scien-

tific opinion upon in matters even where a human life may be involved.

It is true, it is asserted by high authorities that insanity may have existed in a person where, after death, no trace of an organic lesion may have been found in the great nervous centers. But because it has not been found macroscopically, there is no reason to doubt to-day that microscopically such changes may be found by expert microscopists only. But, alas, how many excellent microscopists have we to-day, even in a metropolis like ours? Alas, we can count them on our fingers' ends, though it must be acknowledged, that there is now a lively interest manifested in the acquirement of that knowledge, so essential to every scientific physician. There is, in particular, one man in this city who is familiarizing the study of the microscope, and the beauties it reveals, more than any other in this country. I refer to Dr. Charles Heitzman, of No. 37 West Forty-fifth street, who came here in September, 1874, and established a histological laboratory at the number above mentioned. Already more than three hundred physicians have worked there faithfully, coming from all parts of the Union to profit by his useful teachings. The Doctor has over three thousand microscopic pathological specimens, and fifteen hundred different microscopic slides, representing every tissue in the human body, physiological and pathological. Many ask, what is the microscope good for? In answer, I generally state, it is good for teaching us how to treat diseases successfully. A patient, for instance, comes to us with a troublesome cough. Our physical signs are, perhaps, wanting, and we can not tell whether we have to deal with a simple catarrhal affection, or with a lung affection that might soon terminate the patient's earthly career. We examine the sputa of the patient's lungs, and find either that the patient will soon recover, or, as was the case recently, where Dr. Paul F. Mundé brought the sputa of a young patient of his for examination to Dr. Heitzman, and by the aid of the microscope, it was ascertained that the patient suffered from a chronic catarrhal pneumonia, and had but a short time to live. Dr. Mundé was surprised at this prognosis,

since his patient was not even sick enough to be confined to his bed, and he somewhat disbelieved the correctness of the microscopic diagnosis, but the patient did die after a few months, and a post mortem examination fully corroborated the correctness of the statement made after a careful microscopic examination. Dr. L. Schöney, of this city, brought some sputa for examination which proved to contain débris from a melanotic sarcoma of the lungs, of which the patient, ex-Judge Stemler, of this city, died. The post mortem verified this statement, also, as correct. Prof. Stephen Smith brought a substance for examination from a lady living on one of the most fashionable avenues in this city, which she passed from her bowels, and had greatly alarmed her. It was found that it was nothing else but the protoplasm of some leaflet which she had swallowed with her salad, perhaps, and which she passed undigested. Prognosis and treatment were at once cleared up, and the lady relieved of her great nervousness and fears of perhaps suffering from extra uterine pregnancy or cancer!

Dr. Wravlack, of Jersey City, brought a similar specimen from a lady patient, who passed a certain stuff from her bowels, and which puzzled many of her attending physicians. The microscope revealed that she had swallowed bits of grass, in order to make it appear that she was very ill—a case of hysteria. When she was told what was found, she professed it was not true, but from that day on, nothing of the kind was found in her fæces.

Diseases of the kidneys can only be diagnosticated by the microscope, and, perhaps, with simultaneous “retinitis albuminurica,” by the aid of the ophthalmoscope. Where casts are found in the urine, if these come from the narrow convoluted tubules, the chances of the patient are the worst. Many such have been examined, and, by the death of the patient occurring soon after, the diagnosis had been made by the microscopic examination. The post mortem examination invariably proved the correctness of the prognosis given. Nay, more, the microscopic examination of a drop of blood from a person applying for life insurance policies, can be de-

terminated by the microscope. The granules of a colorless human blood corpuscle are more compact, more numerous, and its connecting links of living matter—first discovered by Charles Heitzman—are thicker and more shining in the strong and vigorous, than in sickly persons. The richer the living matter in a given specimen of a colorless blood corpuscle is, the better the chance for the person of obtaining, *cæteris paribus*, a good old age. A pus corpuscle shows the same properties. We know, clinically, that in wounds of healthy persons, only healthy, cream-like, inoffensive pus—*laudabile et Bonum*—is generated, the healing process is more rapid, while pus of broken down constitutions is termed sanious or ichorous; it is more watery, emits a foul, sickening odor, and, under the microscope, it shows scanty living matter; of the granules, threads, often the nucleus and nucleolus, with its surrounding coloring, what Virchow and Schwann called a cell, but Heitzman prefers to term a corpuscle.

How can one accurately determine whether certain pork contains trichinæ, or not? Only by the microscope, I think. I could go on, *ad infinitum*, but one more example and I shall close what I intended to say, regarding the practical usefulness of the microscope. Dr. Oppenheim, of this city, brought something for examination to Dr. Heitzman that passed from the lady's genitals, whom he had under treatment, and thought, according to her own statement, to be pregnant four months. The microscope revealed that she had passed a two weeks old embryo, the smallest that had ever been seen; but the microscope revealed the embryonic or medullary tissue, and there could be no doubt as to what it was. The lady had had metrorrhagia from granular degeneration of the cervix uteri, and as the Doctor, based on the microscopic examination, could rely upon it that the lady was not pregnant, after the expulsion of the little mass, he cured the lady by appropriate intra-uterine medication, which he would not have dared to do, had he not been positive about the expelled mass. Examples might be cited *ad infinitum*, proving the vast importance of the use of the microscope in skilled hands. The

disappointments following its use by superficial observers, I have often had occasion to witness. A friend of mine, a skillful gynæcologist, but who was not so skillful in making microscopic diagnoses, showed me, one day, a specimen of urine, which he said contained *casts*. I looked at it through his microscope and recognized it as a piece of cotton thread! Comment here is not necessary. It was not the microscope that was at fault, but the observer. An unskilled person might be deceived by buying a brass ring for a gold one; but test it as the dealers in jewelry do, with aqua regia, and it will at once be decided of what metal the ring was made. Many of my friends, after removing a tumor, give a piece of it to one microscopist, and a second piece to another, and when the diagnosis of the tumor is decided by both, by a microscopic examination, it often happens that the one states the tumor to be a fibroma, the other says it is a sarcoma. The surgeon having removed the tumor now doubts whether it is either. How can we conciliate these different opinions? I found, generally, that either one of the microscopists did not know the microscopic differences in different tumors, or that the tumor might have been both a fibroma and a sarcoma—the one examining a piece of fibroma, the other a piece of sarcoma. The microscope never lies. It is like an ordinary mirror, which will always show the true image of the object, if properly illuminated, and observed by the person looking into it. Microscopy is, comparatively speaking, a new science, although microscopes had been used hundreds of years ago. Malpighi, Lieberkühn used it in the last century to great advantage, and have immortalized their names by their use. But our lenses of to-day are perfection itself, and I may mention here that, for instance, Messrs. Tolles', Grunow's, Zentmeyer's lenses, manufactured in this country, are second to none. There is no necessity for importing, to-day, Hartnack's, or Verick's, or Plössel's, or other European microscopes. Ours are found, by Heitzman and myself, to be as good, often better, than those of foreign manufacture.

Dr. T. G. Thomas recently read a paper before our Academy, on six cases of abdominal pregnancy successfully operated

upon by the author. All the mothers lived, the children, of course, perished. He gave the histories of the cases, and claimed that all the cases of extra-uterine pregnancy could to-day be as successfully operated upon as for Ovarian tumors. He maintained to leave the placenta invariably in the abdominal cavity in such cases, and lauded the antiseptic after-treatment as one of the principal causes of the saving of the lives of his patients operated upon. This assertion of Professor Thomas only corroborates our statement, made two years ago, that the antiseptic treatment will prove its high value in the hands of all surgeons, having recourse to it as the only safe and rational one.

Dr. James L. Little, of this city, some time ago removed a lipoma, weighing ten pounds, from the thigh of a lady, by Lister's method, and the extensive wound, necessarily made, healed rapidly almost without suppuration. The operation was performed at the St. Vincent's Hospital.

Dr. Nathan Bozeman, one of the consulting physicians and attending surgeons of the New York Women's Hospital, is thus far the most successful Ovariologist in this or any other country. He performed his first ovariectomy in 1865. This case was published in the *New York Medical Record*, September 1, 1866. He adopted the intra-peritoneal treatment of the pedicle with the silver ligature. The incision in this case was first made from the umbilicus to the symphysis ossium pubis, the peritoneum was opened upon a grooved director, but the tumor was found to have been adherent to the parietes of the abdomen on each side of the incision so far as could be seen or felt. These adhesions could, however, be severed with the handle of a scalpel, and to facilitate this step, the incision was extended to the ensiform cartilage, making it, says the Doctor, in his remarks upon the case, about fourteen inches in length. Extensive adhesions also existed with the small intestines to the back part of the morbid growth, which attachments were also dissected off with the handle of the scalpel. The lateral adhesions required the Doctor's full strength to sever them. He ascribes his success in this case partly to the fact of having avoided

hemorrhage by using the handle only, and not the cutting edge of the knife. The pedicle was about three fingers in breadth, and from six to eight inches in length. This was transfixed by a needle armed with a double silver ligature, and each half of it constricted separately by tying the two ligatures on the opposite sides, and the ends of each wire were cut off close to the knots; the pedicle was then severed, and the uterus allowed to drop into the pelvis. The right ovary was normal. The wound in the abdomen was closed with silver wire, with button sutures three-fourths of an inch apart from each other. Over the whole was placed a thick compress and a wide roller. A grain of morphia was given after the patient had been lifted into bed. The tumor was a multi-locular one. It weighed, after emptying all the cysts, fifteen and one-fourth pounds. Six hours later, another one-half grain of morphia was given. The catheter was used to relieve the bladder.

Dr. Bozeman gives the details of the after-treatment in this remarkable case—remarkable on account of the extensive adhesions and its complete recovery. The sutures were removed the ninth and tenth day; tea and wafers were the only food allowed; chicken soup on the ninth day; the eleventh day, the bowels were moved for the first time since the operation by an enema, and again on the thirteenth. The cure was complete in three weeks. Patient was in perfect health a year after the operation, when last heard from. The patient was operated upon in Coosa county, Alabama. This was the only ovariectomy which Dr. Bozeman had ever performed, until his appointment to the Woman's Hospital, of which I informed you at the time, a few months since. Since that time, he has performed three—two of which were double—at the Woman's Hospital. All these patients recovered completely, and were seen by me enjoying excellent health, and gaining rapidly in flesh and spirits. One of these patients was brought to Dr. Bozeman by Mrs. Edwin Morgan, wife of a former Governor of New York, and was sixty-five years of age, greatly emaciated, without a tooth in her head, and when I first saw this lady, she looked as if she

were ninety years of age. I adduce these facts to show that these were not selected cases, but, on the contrary, the first had extensive adhesions, the two next cases were double ovariectomies, and the fourth one was in an aged and broken-down lady. Furthermore, it may be stated that these were the only cases of ovarian tumors (three) that occurred in Dr. Bozeman's wards in the Woman's Hospital, and as he had not another case to select from, it can not be said that these were selected cases.

Dr. Koeberle's latest successes are ninety per cent. recoveries, while Spencer Wells has seventy-five per cent., and Billroth, of Vienna, fifty per cent. Dr. Nathan Bozeman, of this city, beats the world, thus far, as a successful ovariectomist, having cured all his cases.

There is no surgeon living whose first four cases of ovariectomy proved successful, except Dr. Nathan Bozeman, of this city. Honor to whom honor is due!

Professor Fordyce Barker has resigned his position as attending physician of the New York Women's Hospital. In his stead have been appointed three eminent gynecologists, whose names are well and favorably known throughout the profession, and I know are friends of yours. These are:

First. Dr. Charles C. Lee, formerly of the United States Army, since the war, a resident of this city. The Doctor had been associated, up to the time of his death, with the late Professor George T. Elliott, of Bellevue Hospital Medical College, and for a time with Prof. Van Buren, of this city. He held the position of assistant surgeon to the late lamented Professor Ed. Peaslee, in the Women's Hospital, for seven years. Dr. L. is to-day one of the leading surgeons attached to the Charity Hospital, and that he well deserves his promotion, as one of the attending surgeons of the Women's Hospital, is admitted by all who know him, and his ability as a surgeon and a gynecological operator.

Second. The second appointment of attending surgeon has been conferred upon Dr. James B. Hunter, the able and conscientious editor of the *New York Medical Journal*. Dr. H. has worked faithfully for fourteen years in the Women's Hos-

pital as assistant to Professor T. G. Thomas. I need hardly say more regarding this appointment than that whoever saw Dr. Hunter once operate for either lacerated perineum, vesico-vaginal fistula, or lacerated cervix, will at once admit that he is a master, and a complete and perfect one in his art; and that through his long connection with the most popular gynæcological teacher in this country, he has made good use of his time, and I consider him as good an operator as either Thomas, or Emmet, or Bozeman, and he well deserves to be congratulated, as I publicly do here, for his well deserved promotion.

Last, but not least, the third appointment has been conferred upon Dr. Emil Noeggerath, who is connected both with the German and the Mount Sinai Hospitals, in this city, as gynæcologist. Dr. N. is probably the best informed gynæcologist in this country regarding foreign and domestic literature. His contributions to the art and science of gynæcology are largely quoted in most of the German gynæcological textbooks, especially by R. Olshausen, in his celebrated German work on the "Diseases of the Ovaries, in Billroth's and Pithais' "General and Special Surgery," Stuttgart, 1877. By the way, which, with due respect to our late lamented Peaslee's great work on "Ovarian Tumors; Their Pathology and Treatment," New York, 1872, is the most scientific book of its kind published. Dr. E. Noeggerath was the first to show that "blenorrhœa urethræ," commonly called gonorrhœa in the male, is often the cause of sterility in women. Although, like every inventor of a theory, a great enthusiast in support of this doctrine, Dr. Noeggerath went somewhat too far, in my opinion, as to the cause and effect regarding the affection mentioned, still, it must be admitted that there are many cases where this proves to be a fact; and in this connection, he is well known to have enriched our knowledge regarding one of the many causes of sterility we meet with in practice. Every fifth or sixth married woman is sterile. Says Dr. Barker, in one of his lectures in Bellevue Hospital Medical College to his class, in 1867, when I was present, "I do not know which class of women consult me most, those who have

children and want no more, or those who have none and want some." Dr. Noeggerath brings with him the experience of over twenty years of hard and earnest gynæcological work, and many years hospital experience in two large New York hospitals. His appointment, I doubt not, will be found as appropriate as that of the other gentlemen recently promoted.

In the Women's Hospital, each attending surgeon has two assistant surgeons, who, in the absence of the attending surgeon, perform operations and attend to the patients of their respective wards; besides this, each assistant attends as attending surgeon at the out-door department, which has a very large attendance, and gives ample opportunities for practice. These positions are very much desired by many eminent younger gynæcologists for the advantages thus derived, and as it is an honor to be connected with the best institution of its kind in the world. But, as it is with all appointments, political or otherwise, where there is one vacancy, there are usually twenty applicants. So it was here, no doubt, but the larger number are not appointed, but are *disappointed*.

The seven vacancies of assistant surgeons were filled by the appointment of the following gentlemen, whose names I will simply give, since it would take too much space, I fear, in your esteemed journal, to give a brief sketch of the claims and merits of these gentlemen to the honored positions; which, however, I unhesitatingly subscribe to, that they are all, those that I know, at least—five of the gentlemen are acquaintances and friends of mine—well entitled to the honor thus conferred upon them by their appointment to the Women's Hospital.

Dr. Lee appointed, or rather nominated, the appointments having been made by the Governors, Dr. Horace T. Hanks, Professor at Dartmouth College, in place of Dr. Paul F. Mundé, who was Prof. Barker's assistant. The second appointment has been conferred by Dr. C. C. Lee, upon Dr. A. A. Smith, the present incumbent.

Dr. Hunter has appointed Dr. Clement Cleveland and Dr. Ed. Peaslee, son of the late Dr. Peaslee.

Dr. Noeggerath appointed Dr. Colin Mackenzie and Dr. Henry Griswold.

Dr. Thomas conferred the nomination upon Dr. Henry D. Nichol, in place of Dr. Hunter, promoted.

I have given you the names of the appointees of the Women's Hospital, since I know that the profession of the United States takes, as a whole, a lively interest in this institution, and many of your readers may have a friend among the new appointments, who will be glad to be informed of their well-deserved appointments.

My gynæcological notes are ready for publication, but this letter is already, perhaps, too long, for which length I beg your and the reader's pardon, and I therefore again postpone their transmission to you.

Very truly and respectfully yours,

RUDOLF TAUSZKY, M.D.

PARIS, *November, 1878.*

DEAR DOCTOR:—The medical affairs of Paris are established on a scale in conformity with the grandeur and extent of the city, and the other institutions found here.

The nucleus of the whole is the old *Ecole de Medicine*, now in a building dating from the last century, in the street named after it. In front of the court is a doric colonnade, and opposite the Corinthian portico of the building itself, rises the bronze statue of the anatomist, Bichat. On the ground floor are offices, residences of the servants, and two amphitheatres, the larger one seating fifteen hundred persons, but we must hope, for the benefit of the lecturer's lungs, that the back seats are never taken.

The *Musée Orfila* is on the first floor, and contains thousands of fine preparations, among them many "corrosion" preparations which are very instructive, and the preparation of which is not very complicated. Any or all of the vascular systems of the organ of which it is desired to make a

preparation, are injected with a warm concentrated solution of shellac in alcohol, which can be colored differently for the different tracts by any pigment not affected by the acid to be used. After cooling and hardening, the whole is placed in hydro-chloric acid, and, after continued maceration, freed from the shreds of tissue still adhering by washing in a stream of water, when there remains a complete and beautiful skeleton of the system or systems injected, in the latter case easily distinguishable by the different coloring matters which have been added.

Additions are made to the museum every year, for the competitors for the positions pertaining to anatomy are required, in addition to their examinations, to present some anatomical preparation, which becomes the property of the museum whether the candidate be accepted or not. On the same floor are the reading-rooms and the library, which contains fifty thousand volumes, and a large number of home and foreign medical journals. This library is a real comfort to strangers, for books and papers can be had without any of that formality existing at so many of the other universities, and you can here ask for a book from the shelves without being looked at as though committing some high crime. The benefits of this system are apparent enough, from the fact that these rooms are always filled.

Opposite the Ecole, is the Patholog. Anatomical Musée Dupuytren, amphitheatres, and dissecting-rooms, which are being extended, and for this purpose the old hospital formerly occupying part of the site is being demolished.

To the medical faculty also belong the botanical gardens, the school of pharmacy, and lecture-rooms in the hospitals. The laboratories at the hospitals, and the extensive dissecting-rooms at the *Amphitheatre des Hôpitaux*, though not belonging to the faculty, are open to the medical students.

Lectures on physiology and some other sciences usually classed with the medical, are also given at the *Sorbonne* or university building for the other faculties, and at the *Collège de France*, though the lectures here are not intended for students, but for persons more advanced. Here are the labora-

tories of Brown-Sequard, who, as you know, has succeeded Claude Bernard, of Ranvier, Marcy, and Balbiàni.

The Collège de France is an institution quite separate and distinct from the university. It was founded by Francis I. in 1530, and is under the direct control of the Minister of Education. Originally, its teachings were limited to "trois langues," but now all the sciences are taught here, whence the inscription over the gate, "docet omnia." The professors are not held to give a course of lectures on any one science or subject, but are at complete liberty to choose, as they do, a special branch, and then expose this in full. There is nowhere, I believe, a parallel institution, and this one is doing much good to those who have already made some advance in a special science.

The laboratories, however, are not very large, as the whole building is becoming somewhat small for present demands, and all room is used to its utmost.

The hospitals, all of which are open to students, are nearly without number. There are thirty or more, and the following contain from four hundred up to eight hundred and forty-two beds: Hotel Dieu, La Pitie, Charite, Saint Antoine, Menilmontant, Necker, Beaujon, Lariboisiere, Saint Louis, Enfants Malades, Eugenie, d'Accouchments, Temporaire, Salpetriere.

At the Val de Grace is the military medical school, but other students are not allowed to enter here.

The clinics are all held from eight to ten o'clock, so that it is impossible to get around to them all.

Notwithstanding the immensity of all the institutions, they are not too large, for the number of medical students inscribed at the faculty is over seven thousand, and, besides these, there are certainly several hundred foreigners pursuing specialties, who are not inscribed.

A. M. BLEILE.

REVIEWS.

Diseases of the Bladder and Urethra in Women. By ALEXANDER J. C. SKENE, M.D., Professor of the Diseases of Women in the Long Island College Hospital, etc., etc. New York: Wm. Wood & Co., 1878.

This book has also another title, on the first page of reading matter, "The Uro-Cystic and Urethral Diseases of Women," which is somewhat unusual. The author states in his preface that it is written to fill a gap in our literature, there being no systematic treatise on the subject in the English language. Although it certainly is a valuable and needed work, we are confident that it would have been much more systematic if the author could have been persuaded to adopt another style of presentation than that of lectures. The tone of a finished treatise and that of a lecture are widely different. A studied essay, read in the lecture-room, is almost invariably a weariness to the flesh, while the style of the off-hand lecture, spoken *ore rotundo*, from a full knowledge of the subject, is ill-preserved in book form. The latter is only tolerable when it is perfectly natural and unrevised. As a general thing, before the lecture is sent to the press, it is pruned here and there, padded with statistical and other citations, and the colloquial, or, rather, oratorical style adulterated with the heavy manner of the dictionary and encyclopedia. There is also a tendency in medical lectures to bestow the same amount of time upon great and small matters alike. The lecturer must fill his hour and no more, whether the subject is important and overflows this limit, or is trivial and must be amplified. A book made of lectures will show this, more or less, unless entirely re-written and re-arranged, when the title is no longer truthful. Let us hope that the author will favor us, in the second edition, with a systematic treatise properly arranged in chapters and sections, instead of the eight lectures into which the volume is at present divided. The first lecture contains an account of the anatomy and topography of the bladder and urethra; the function of the bladder, followed by its embryological history; and the malformations of the urethra and bladder. An omission which should be rectified, is an account of the ureters. What is their exact relation to the bladder and uterus, and how do they reach the bladder from the sides of the pelvis? As neighbors of the bladder, their topography is certainly germane to the subject, even if their diseases are not, and we respectfully ask Dr. Skene to state their relations fully in the next edition.

Lecture II. treats of the functional diseases of the bladder, and is the longest and most instructive chapter in the book. Dilatation of the urethra for spasmodic affections, (barbarously termed cysto-spasm,) is

hardly given the prominence which it merits. There seems to be a hesitancy among teachers, especially of obstetric and gynecic science, to recommend measures which, injudiciously used, may do harm. There is no doubt that urethral dilatation, when attempted by the rash or ignorant, may lead to disastrous results, but it is equally capable of performing brilliant service, when rightly used. The surgeon does not hesitate to teach his pupil every use of the scalpel, nor does the teacher of practical medicine taboo calomel because it is a two-edged tool. Neither should the teachers in other departments reserve an esoteric fund of knowledge, lest "fools should rush in where angels fear to tread." The nocturnal incontinence of urine in children is quite fully treated, but it still appears to be a *terra incognita*, and further suggestions are in order. Strangely enough, the subject of inversion of the bladder, called here "Extroversion of the Bladder through the Urethra," is treated of in this chapter, and the diagnosis is said to be "by no means easy." Inasmuch as no hint is given of the propriety of introducing the finger into the urethra, except such as may lie concealed in the expression, "reduction should be tried," the author is probably right, from his stand-point. After reduction, we are told to examine by means of a sound in the bladder and a finger in the vagina or rectum, which is assuredly less likely to give us information than the finger introduced through the already dilated urethra.

Lecture III discusses the instrumental aid to diagnosis, the analysis of the urine, and begins the study of the organic diseases of the bladder, which is continued in Lectures IV, V, and VI. The subject of foreign bodies in the bladder being usually thoroughly handled in surgical treatises, is passed over with few comments. The two remaining lectures are occupied with the diseases of the urethra, neurosis; the various kinds of urethritis; neoplasms, vascular, areolar, epithelial, and compound; dilatations and dislocations; prolapse of the mucous membrane; foreign bodies; stricture and incomplete fistula of the urethra. An appendix contains an account of Dr. Ayres's operation for the cure of a case of extroversion of the bladder, in 1858.

It will be seen that the book covers the ground quite completely, and, with a few exceptions, does it well. So far as the matter is concerned, but few points can be found fault with; as for the manner, the less said the better. Most frequently, inelegant diction is the result of haste, and not of incapacity, and there is abundant evidence that such is the case with our author. Gaps in literature are to be filled quickly nowadays. While the scholarly author is polishing his sentences, some less conscientious scribbler pre-occupies the ground. But now that the question of precedence is settled, let us hope that Dr. Skene will leisurely revise and reform the book to fit it for the destiny to which it is entitled, for every physician needs it, and will continue to, so long as it is the only monograph on so important a subject.

H. G. L.



